

**IT IS THE VENDOR'S RESPONSIBILITY TO
CHECK FOR ADDENDA PRIOR TO SUBMITTING PROPOSALS**

**NOTICE TO BIDDERS
SPECIFICATION NO. 04-146**

The City of Lincoln, Nebraska intends to purchase and invites you to submit a sealed bid for:

REPAIR AND PRESERVE THE FOUR (4) WARS MEMORIAL

Sealed bids will be received by the City of Lincoln, Nebraska on or before 12:00 noon Wednesday, June 16, 2004 in the office of the Purchasing Agent, Suite 200, K Street Complex, Southwest Wing, 440 South 8th Street, Lincoln, Nebraska 68508. Bids will be publicly opened and read at the K Street Complex.

Bidders should take caution if U.S. mail or mail delivery services are used for the submission of bids. Mailing should be made in sufficient time for bids to arrive in the Purchasing Division, prior to the time and date specified above.

SPECIFICATIONS TO REPAIR AND PRESERVE THE 4 WARS MEMORIAL

1. SCOPE

- 1.1 The proposed work shall include cleaning, repairing and preserving of the existing 4 Wars Memorial located in Antelope Park (near the Auld Recreation Center).
- 1.2 Proposed bidders are encouraged to visit the project site and contact the project coordinator for questions prior to submitting a bid.
 - 1.2.1 Project Coordinator: Stacey Ault, 441-3084
- 1.3 Project Location: Approx. Memorial Drive and Sumner Streets, Lincoln, Nebraska 68502
- 1.4 Owner: Parks and Recreation Department, City of Lincoln, Nebraska
- 1.5 Project Completion Date: (90 days from award date)

2. PRE-RENOVATION PROCEDURES

- 2.1 The site shall be secured by the Contractor with fencing surrounding the entire structure, including any scaffolding, equipment or materials that may be present.
- 2.2 Contractor shall illuminate site at night for security purposes.

3. CLEANING

- 3.1 Clean statue using "EnviroKlean®" D/2 Architectural Antimicrobial cleaner and power washer > 600 psi at 2-3 gallons/minute (see attached product specifications A.)
- 3.2 Prepare sculpture for repair by sandblasting exposed, rusty rebar.
 - 3.2.1 Contractor shall take care to protect existing concrete.
- 3.3 Apply either Imron paint or nylon/teflon paint to rebar within one (1) hour of cleaning.

4. REPAIRING/REBUILDING

- 4.1 Rebuild sculptured elements that are missing, using toned restoration mortar.
 - 4.1.1 Contractor shall provide a sample of mortar for patching to project coordinator, allowing the sample a drying time of seven (7) days before it is compared to the existing statue.
 - 4.1.2 Mortar sample shall be etched or textured to achieve aggregate surface similar to existing surfaces.
- 4.2 Concrete fills shall be shaped to compensate for loss from the original, and will reproduce missing forms.

5. PRESERVING

- 5.1 Apply "ConserVare®" H 100 Consolidation Treatment, concrete strengthener with water repellant (see product specifications B.)
 - 5.1.1 If, after an initial test, the strengthener with repellant is appropriate for the surface, apply.
 - 5.1.2 if not, see step B.
- 5.2 Apply "ConserVare®" OH 100 Consolidation Treatment concrete strengthener without water repellant (see product specifications C.)
 - 5.2.1 If, after an initial test, the strengthener without repellant is appropriate for the surface, apply.
 - 5.2.2 If not, see step C.

PRESERVING cont.

- 5.3 Apply "SureKlean®" Siloxane PD water repellent (see product specifications D.)
 - 5.3.1 If, after an initial test, the water repellent is appropriate for the surface, apply.

6. **CLEAN UP**

- 6.1 The job site shall be left neat and clean.
- 6.2 All application related debris and chemicals shall be cleaned up and disposed of properly.
- 6.3 Any damages to property including turf, pavement, etc. shall be corrected by the Contractor.
- 6.4 Site shall be restored to pre-construction conditions by Contractor.

7. **MISCELLANEOUS REQUIREMENTS**

- 7.1 Contractor shall provide photos both before and after the project is complete.
- 7.2 Contractor shall provide a written report of the treatment process.
- 7.3 Contractor shall provide written recommendations for the continuing maintenance of the statue.
- 7.4 Any damage to the monument created by or resulting from the restoration, must be repaired by the Vendor at no additional cost to the City.
- 7.5 A list of at least three (3) similar restoration projects must be submitted with bid documents at the time of bid opening.
- 7.6 Vendors with Membership in the American Institute for Conservation, A.I.C., may be given additional consideration when awarding this project.
- 7.7 All Insurance Requirements as outlined in the attached Insurance Clause must be met before a contract can be executed.
- 7.8 A 100% Performance Bond must be supplied by awarded Vendor before a contract can be executed as per State of Nebraska Law.

PROPOSAL
SPECIFICATION NO. 04-146
BID OPENING TIME: 12:00 NOON
DATE: Wednesday, June 16, 2004

The undersigned, having full knowledge of the requirements of the City of Lincoln for the below listed phases and the contract documents (which include Notice, Instructions, this Proposal, Specifications, Contract, and any and all addenda) and all other conditions of the Proposal, agrees to enter into a contract with the City the below listed fees for the performance of this Specification, complete in every respect, in strict accordance with the contract documents at and for fees listed below.

ADDENDA RECEIPT: The receipt of addenda to the specification numbers _____ through _____ are hereby acknowledged. Failure of any submitter to receive any addendum or interpretation of the specifications shall not relieve the submitter from any obligations specified in the request. All addenda shall become part of the final contract document.

Qty.	Description	Unit cost	Total Cost
1.	Repair and Preserve Four (4) Wars Memorial	Lump Sum	\$_____

BID SECURITY REQUIRED: X YES 5% Of Bid

A Performance Bond will be required before contract can be signed by the City.

AFFIRMATIVE ACTION PROGRAM: Successful bidder will be required to comply with the provisions of the City's Affirmative Action Policy (Contract Compliance, Sec. 1.16). The Equal Opportunity Officer will determine compliance or non-compliance with the City's policy upon a complete and substantial review of successful bidder's equal opportunity policies, procedures and practices.

The undersigned signatory for the bidder represents and warrants that he has full and complete authority to submit this proposal to the City, and to enter into a contract if this proposal is accepted.

RETURN 2 COMPLETE COPIES OF PROPOSAL AND SUPPORTING MATERIAL.
MARK OUTSIDE OF BID ENVELOPE: SEALED BID FOR SPEC. 04-146

COMPANY NAME

BY (Signature)

STREET ADDRESS or P.O. BOX

(Print Name)

CITY, STATE ZIP CODE

(Title)

TELEPHONE No. FAX No.

(Date)

**EMPLOYER'S FEDERAL I.D. NO.
OR SOCIAL SECURITY NUMBER**

ESTIMATED DELIVERY DAYS

E-MAIL ADDRESS

TERMS OF PAYMENT

Bids may be inspected in the Purchasing Division offices during normal business hours, after tabulation by the purchasing agent. If you desire a copy of the bid tabulation to be mailed to you, you must enclose a self-addressed stamped envelope with your bidding documents. Bid tabulations can also be viewed on our website at: lincoln.ne.gov Keyword: Bid

INSTRUCTIONS TO BIDDERS

CITY OF LINCOLN, NEBRASKA PURCHASING DIVISION

1. BIDDING PROCEDURE

- 1.1 Bidder shall submit two (2) complete sets of the bid documents and all supporting material. All appropriate blanks shall be completed. Any interlineation, alteration or erasure on the specification document shall be initialed by the signer of the bid. Bidder shall not change the proposal form nor make additional stipulations on the specification document. Any amplified or qualifying information shall be on the bidder's letterhead and firmly attached to the specification document.
- 1.2 Bid prices shall be submitted on the Proposal Form included in the bid document.
- 1.3 Bidders may submit a bid on an "all or none" or "lump sum" basis, but should also submit a quotation on an item-by-item basis. Bidding documents shall be clearly marked indicating the kind of proposal being submitted.
- 1.4 Each bid must be legibly printed in ink or by typewriter, include the full name, business address, and telephone number of the bidder; and be signed in ink by the bidder.
- 1.5 A bid by a firm or organization other than a corporation must include the name and address of each member.
- 1.6 A bid by a corporation must be signed in the name of such corporation by a duly authorized official thereof.
- 1.7 Any person signing a bid for a firm, corporation, or other organization must show evidence of his authority so to bind such firm, corporation, or organization.
- 1.8 Bids received after the time and date established for receiving bids will be rejected.

2. BIDDER'S SECURITY

- 2.1 Bid security, as a guarantee of good faith, in the form of a certified check, cashier's check, or bidder's bond, may be required to be submitted with this bid document, as indicated of the Proposal Form.
- 2.2 If alternate bids are submitted, only one bid security will be required, provided the bid security is based on the amount of the highest gross bid.
- 2.3 Such bid security will be returned to the unsuccessful bidders when the award of bid is made.
- 2.4 Bid security will be returned to the successful bidder(s) as follows:
 - 2.4.1 For single order bids with specified quantities: upon the delivery of all equipment or merchandise, and upon final acceptance by the City.
 - 2.4.2 For all other contracts: upon approval by the City of the executed contract and bonds.
- 2.5 City shall have the right to retain the bid security of bidders to whom an award is being considered until either:
 - 2.5.1 A contract has been executed and bonds have been furnished.
 - 2.5.2 The specified time has elapsed so that the bids may be withdrawn.
 - 2.5.3 All bids have been rejected.

- 2.6 Bid security will be forfeited to the City as full liquidated damages, but not as a penalty, for any of the following reasons, as pertains to this specification document:

- 2.6.1 If the bidder fails to deliver the equipment or merchandise in full compliance with the accepted proposal and specifications.
- 2.6.2 If the bidder fails or refuses to enter into a contract on forms provided by the City, and/or if the bidder fails to provide sufficient bonds or insurance within the time period as established in this specification document.

3. EQUAL OPPORTUNITY

- 3.1 Each bidder agrees that it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, ancestry, disability, age, or marital status. Bidder shall fully comply with the provisions of Chapter 11.08 of the Lincoln Municipal Code.
- 3.2 Successful bidder will be required to comply with the provisions of the City's Affirmative Action Policy (Contract Compliance, Sec. 1.16).
- 3.3 The Equal Opportunity Officer will determine compliance or non-compliance with the City's Affirmative Action Policy upon a complete and substantial review of successful bidder's equal opportunity policies, procedures and practices.

4. DATA PRIVACY

- 4.1 Bidder agrees to abide by all applicable State and Federal laws and regulations concerning the handling and disclosure of private and confidential information concerning individuals and corporations as to inventions, copyrights, patents and patent rights.
- 4.2 The bidder agrees to hold the City harmless from any claims resulting from the bidder's unlawful disclosure or use of private or confidential information.

5. BIDDER'S REPRESENTATION

- 5.1 Each bidder by signing and submitting a bid, represents that the bidder has read and understands the specification documents, and the bid has been made in accordance therewith.
- 5.2 Each bidder for services further represents that the bidder is familiar with the local conditions under which the work is to be done and has correlated the observations with the requirements of the bid documents.

6. INDEPENDENT PRICE DETERMINATION

- 6.1 By signing and submitting this bid, the bidder certifies that the prices in this bid have been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder prior to bid opening directly or indirectly to any other bidder or to any competitor; no attempt has been made, or will be made, by the bidder to induce any person or firm to submit, or not to submit, a bid for the purpose of restricting competition.

7. CLARIFICATION OF SPECIFICATION DOCUMENTS

- 7.1 Bidders shall promptly notify the Purchasing Agent of any ambiguity, inconsistency or error which they may discover upon examination of the specification documents.
- 7.2 Bidders desiring clarification or interpretation of the specification documents shall make a written request which must reach the Purchasing Agent at least seven (7) calendar days prior to the date and time for receipt of bids.
- 7.3 Interpretations, corrections and changes made to the specification documents will be made by written addenda.
- 7.4 Oral interpretations or changes to the Specification Documents made in any other manner, will not be binding on the City; and bidders shall not rely upon such interpretations or changes.

8. ADDENDA

- 8.1 Addenda are written instruments issued by the City prior to the date for receipt of bids which modify or interpret the specification document by addition, deletion, clarification or correction.
- 8.2 Addenda will be mailed or delivered to all who are known by the City to have received a complete set of specification documents.
- 8.3 Copies of addenda will be made available for inspection at the office of the Purchasing Agent.
- 8.4 No addendum will be issued later than forty-eight (48) hours prior to the date and time for receipt of bids, except an addendum withdrawing the invitation to bid, or an addendum which includes postponement of the bid.
- 8.5 Bidders shall ascertain prior to submitting their bid that they have received all addenda issued, and they shall acknowledge receipt of addenda on the proposal form.

9. ANTI-LOBBYING PROVISION

- 9.1 During the period between the bid close date and the contract award, bidders, including their agents and representatives, shall not directly discuss or promote their bid with any member of the City Council or City Staff except in the course of City-sponsored inquiries, briefings, interviews, or presentations, unless requested by the City.

10. BRAND NAMES

- 10.1 Wherever in the specifications or proposal form brand names, manufacturer, trade name, or catalog numbers are specified, it is for the purpose of establishing a grade or quality of material only; and the term "or equal" is deemed to follow.
- 10.2 It is the bidder's responsibility to identify any alternate items offered in the bid, and prove to the satisfaction of the City that said item is equal to, or better than, the product specified.
- 10.3 Bids for alternate items shall be stated in the appropriate brand on the proposal form, or if the proposal form does not contain blanks for alternates, bidder MUST attach to the specification documents on Company letterhead a statement identifying the manufacturer and brand name of each proposed alternate, plus a complete description of the alternate items including illustrations, performance test data and any other information necessary for an evaluation. The bidder must indicate any variances by item number

from the specification document no matter how slight. Bidder must fully explain the variances from the specification document, since brochure information may not be sufficient.

- 10.4 If variations are not stated in the proposal, it will be assumed that the item being bid fully complies with the City's specifications.

11. DEMONSTRATIONS/SAMPLES

- 11.1 Bidders shall demonstrate the exact item(s) proposed within seven (7) calendar days from receipt of such request from the City.
- 11.2 Such demonstration can be at the City delivery location or a surrounding community.
- 11.3 If bidder does not have an item in the area, it will be at the bidder's expense to send appropriate City personnel to the nearest location to view and inspect proposed item(s).
- 11.4 If items are small and malleable, and the bidder is proposing an alternate product, the bidder MUST supply a sample of the exact item. Samples will be returned at bidder's expense after receipt by the City of acceptable goods. Bidders must indicate how samples are to be returned.

12. DELIVERY

- 12.1 Each bidder shall state on his proposal form the date upon which he can make delivery of all equipment or merchandise. Time required for delivery is hereby made an essential element of the bid.
- 12.2 The City reserves the right to cancel orders, or any part thereof, without obligation, if delivery is not made within the time(s) specified on the proposal form.
- 12.3 All bids shall be based upon **inside** delivery of the equipment or merchandise F.O.B. the City at the location specified by the City, with all transportation charges paid.

13. WARRANTIES, GUARANTEES AND MAINTENANCE

- 13.1 Copies of the following documents must accompany the bid proposal for all items being bid:
 - 13.1.1 Manufacturer's warranties and/or guarantees.
 - 13.1.2 Bidder's maintenance policies and associated costs.
- 13.2 As a minimum requirement of the City, the bidder will guarantee in writing that any defective components discovered within a one (1) year period after the date of acceptance shall be replaced at no expense to the City. Replacement parts of defective components shall be shipped at no cost to the City. Shipping costs for defective parts required to be returned to the bidder shall be paid by the bidder.
- 13.3 Bidder Warrants and represents to the City that all software/firmware/hardware/equipment /systems developed, distributed, installed or programmed by Bidder pursuant to this Specification and Agreement.
 - 13.3.1 That all date recognition and processing by the software/firmware/hardware/equipment/system will include the four-digit-year format and will correctly recognize and process the date of February 29, and any related data, during Leap years; and
 - 13.3.2 That all date sorting by the software /firmware/hardware/ equipment/system that includes a "year category" shall be done based on the four-digit-year format. Upon being notified in writing by the City of the failure of any software/ firmware/

hardware /equipment /systems to comply with this Specification and Agreement, Contractor will, within 60 days and at no cost to the City, replace or correct the non-complying software/ firmware/ hardware/ equipment/ systems with software/firmware/ hardware/equipment/ systems that does comply with this Specification and Agreement.

- 13.3.3 No Disclaimers: The warranties and representations set forth in this section 13.3 shall not be subject to any disclaimer or exclusion of warranties or to any limitations of Licensor's liability under this Specification and Agreement.

14. ACCEPTANCE OF MATERIAL

- 14.1 All components used in the manufacture or construction of materials, supplies and equipment, and all finished materials, shall be new, the latest make/model, of the best quality, and the highest grade workmanship.
- 14.2 Material delivered under this proposal shall remain the property of the bidder until:
- 14.2.1 A physical inspection and actual usage of this material is made and found to be acceptable to the City; and
- 14.2.2 Material is determined to be in full compliance with the specifications and accepted proposal.
- 14.3 In the event the delivered material is found to be defective or does not conform to the specification documents and accepted proposal, then the City reserves the right to cancel the order upon written notice to the bidder and return materials to the bidder at bidder's expense.
- 14.4 Successful bidder shall be required to furnish title to the material, free and clear of all liens and encumbrances, issued in the name of the City of Lincoln, Nebraska, as required by the specification documents or purchase orders.
- 14.5 Selling dealer's advertising decals, stickers or other signs shall not be affixed to equipment. Vehicle mud flaps shall be installed blank side out with no advertisements. Manufacturer's standard production forgings, stampings, nameplates and logos are acceptable.

15. BID EVALUATION AND AWARD

- 15.1 The signed bid proposal shall be considered an offer on the part of the bidder. Such offer shall be deemed accepted upon issuance by the City of purchase orders, contract award notifications, or other contract documents appropriate to the work.
- 15.2 No bid shall be modified or withdrawn for a period of ninety (90) calendar days after the time and date established for receiving bids, and each bidder so agrees in submitting the bid.
- 15.3 In case of a discrepancy between the unit prices and their extensions, the unit prices shall govern.
- 15.4 The bid will be awarded to the lowest responsive, responsible bidder whose proposal will be most advantageous to the City, and as the City deems will best serve their requirements.
- 15.5 The City reserves the right to accept or reject any or all bids; to request rebids; to award bids item-by-item, by groups, or "lump sum"; to waive irregularities and technicalities in bids; such as shall best serve the requirements and interests of the City.

16. INDEMNIFICATION

- 16.1 The bidder shall indemnify and hold harmless the City, its members, its officers and employees from and against all claims, damages, losses, and expenses, including, but not limited to attorney's fees arising out of or resulting from the performance of the contract, provided that any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property other than goods, materials and equipment furnished under this contract) including the loss or use resulting therefrom; is caused in whole or part by any negligent act or omission of the bidder, any subcontractor, or anyone directly or indirectly employed by any one of them or anyone for whose acts made by any of them may be liable, regardless of whether or not it is caused by a party indemnified hereunder.
- 16.2 In any and all claims against the City or any of its members, officers or employees by an employee of the bidder, any subcontractor, anyone directly or indirectly employed by any of them or by anyone for whose acts made by any of them may be liable, the indemnification obligation under paragraph 16.1 shall not be limited in any way by any limitation of the amount or type of damages, compensation or benefits payable by or for the bidder or any subcontractor under worker's or workmen's compensation acts, disability benefit acts or other employee benefit acts.

17. TERMS OF PAYMENT

- 17.1 Unless other specification provisions state otherwise, payment in full will be made by the City within thirty (30) calendar days after all labor has been performed and all equipment or other merchandise has been delivered, and all such labor and equipment and other materials have met all contract specifications.

18. LAWS

- 18.1 The Laws of the State of Nebraska shall govern the rights, obligations, and remedies of the Parties under this proposal and any agreement reached as a result of this process.

19. AFFIRMATIVE ACTION

- 19.1 The City of Lincoln-Lancaster County Purchasing Division provides equal opportunity for all bidders and encourages minority businesses and women's business enterprises to participate in our bidding process.

20. LIVING WAGE

- 20.1 The bidders agree to pay all employees employed in the performance of this contract, a base wage of not less than the City Living Wage per section 2.81.010 of the Lincoln Municipal Code. This wage is subject to change up or down every July.

INSURANCE CLAUSE TO BE USED FOR ALL CITY CONTRACTS

The Contractor shall indemnify and save harmless the City of Lincoln, Nebraska from and against all losses, claims, damages, and expenses, including attorney's fees, arising out of or resulting from the performance of the contract that results in bodily injury, sickness, disease, death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom and is caused in whole or in part by the Contractor, any subcontractor, any directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. This section will not require the Contractor to indemnify or hold harmless the City of Lincoln for any losses, claims, damages, and expenses arising out of or resulting from the negligence of the City of Lincoln, Nebraska.

Contractor shall not commence work under this contract until he has obtained all insurance required under this Section and such insurance has been approved by the City Attorney for the City of Lincoln, nor shall the Contractor allow any sub-contractor to commence work on his subcontract until all similar insurance required of the sub-contractor has been so obtained and approved.

A. Worker's Compensation Insurance and Employer's Liability Insurance

The Contractor shall take out and maintain during the life of this contract the applicable statutory Worker's Compensation Insurance with an insurance company authorized to write such insurance in this state covering all his employees, and in the case of any work sublet, the Contractor shall require the subcontractor similarly to provide statutory Worker's Compensation Insurance for the latter's employees. The Contractor shall take out and maintain during the life of this contract, Employer's Liability Insurance with a limit of \$100,000 in an insurance company authorized to write such insurance in all states where the Contractor will have employees located in the performance of this contract, and the Contractor shall require each of his subcontractors similarly to maintain common law liability insurance on his employees.

State	Statutory
Applicable Federal	Statutory
Employer's Liability	\$100,000

B. General Liability Insurance

1. The Contractor shall maintain during the life of this contract, General Liability Insurance, naming and protecting him and the City of Lincoln, its officials, employees and volunteers as insured, against claims for damages resulting from (a) bodily injury, including wrongful death, (b) personal injury liability, and (c) property damage which may arise from operations under this contract whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. The minimum acceptable limits of liability to be provided by such insurance shall be as follows:

A. Bodily Injury/Property Damage	\$1,000,000 each Occurrence \$2,000,000 Aggregate
B. Personal Injury Damage	\$1,000,000 each Occurrence
C. Contractual Liability	\$1,000,000 each Occurrence
D. Products Liability & Completed Operations	\$1,000,000 each Occurrence

2. The General Liability Insurance required by the preceding paragraph shall include the following extensions of coverage:

- (a) The coverage shall be provided under a Commercial General Liability form or similar thereto.
- (b) X.C.U. Coverage - if the contract requires any work procedures involving blasting, excavating, tunneling or other underground work, the liability coverage shall include Standard Blasting or Explosion Coverage, Standard Collapse Coverage, and Standard Underground Coverage commonly referred to as XCU Property Damage Liability.
- (c) The property damage coverage shall include a Broad Form Property Damage Endorsement or similar thereto.
- (d) Contractual Liability coverage shall be included.
- (e) Products Liability and/or Completed Operations coverage shall be included.
- (f) Personal Injury Liability coverage shall be included.

C. Automobile Liability Insurance

The Contractor shall take out and maintain during the life of the contract such Automobile Liability Insurance as shall protect him against claims for damages resulting from bodily injury, including wrongful death, and property damage which may arise from the operations of any owned, hired, or non-owned automobiles used by or for him in any capacity in connection with the carrying out of this contract. The minimum acceptable limits of liability to be provided by such Automobile Liability Insurance shall be as follows:

Bodily Injury and Property Damage \$1,000,000 Combined Single Limit

D. Builder's Risk Insurance (For Building Construction Contracts Only)

Unless otherwise specified where buildings are to be constructed under this contract, the Contractor shall provide and maintain fire, extended coverage, vandalism, and malicious mischief insurance, covering such building in an amount equal to one-hundred percent (100%) of the contract amount (minimum), as specified herein.

Losses, if any, shall be made payable to the City of Lincoln and Contractor as their interest may appear. A Certificate of Insurance evidencing such insurance coverage shall be filed with the City of Lincoln by the time work on the building begins and such insurance shall be subjected to the approval of the City Attorney.

E. Minimum Scope of Insurance

All Liability Insurance policies shall be written on an "occurrence" basis only. All insurance coverage are to be placed with insurers authorized to do business in the State of Nebraska and must be placed with an insurer that has an A.M. Best's Rating of no less than A:VII unless specific approval has been granted by the City of Lincoln.

F. Certificate of Insurance

All certificates of insurance shall be filed with the City of Lincoln on the standard ACCORD CERTIFICATE OF INSURANCE form showing the specific limits of insurance coverage required by the preceding Sections A, B, C, D, and showing the City of Lincoln as a named additional insured. Such certificate shall specifically state that insurance policies are to be endorsed to require the insurer to provide the City of Lincoln thirty days, notice of cancellation, non-renewal or any material reduction of insurance coverage.

A

EnviroKLEAN

Growth of bacteria, fungi, algae, lichens, and mosses disfigure and degrade many types of construction materials. Enviro Klean® D/2 Architectural Antimicrobial is a safe and highly efficient alternative to aggressive biocidal treatments traditionally used on exterior masonry, sculpture, monuments, decorative fountains, gravestones, and tombs.

DESCRIPTION AND USE

Enviro Klean® D/2 Architectural Antimicrobial safely removes a broad spectrum of biological deposits from vertical or horizontal masonry surfaces. Simple spray or brush application of D/2 – followed by a 60-second minimum contact time, gentle scrubbing and water rinsing – is normally sufficient to remove deposits of fungi, algae, lichen and bacteria typically encountered on building surfaces and monuments. D/2 is an effective antibacterial agent, as tested in compliance with EPA efficacy data guidelines.

D/2 Architectural Antimicrobial is recommended for these substrates.

Substrate	Type	Use?
Architectural Concrete Block	Smooth	yes
	Split-faced	yes
	Burnished	yes
	Ribbed	yes
Concrete	Brick	yes
	Tile	yes
	Precast Panels	yes
	Pavers	yes
	Cast-in-place	yes
Fired Clay	Brick	yes
	Tile	yes
	Terra Cotta	yes
	Pavers	yes
Marble, Travertine, Limestone	Polished	yes
	Unpolished	yes
Granite	Polished	yes
	Unpolished	yes
Sandstone	Unpolished	yes
Slate	Unpolished	yes

Always test to ensure desired results. Coverage estimates depend on surface texture and porosity.

D/2 Architectural Antimicrobial

safe, fast-acting antibacterial for masonry

ADVANTAGES

- **Fast acting:** Kills most gram-positive and gram-negative bacteria in 60 seconds.
- **Keeps surfaces clean for a minimum of 1 year.**
- **Safe for landscape plantings and grass.**
- **No detrimental effects on masonry.**
- **Biodegradable and essentially non-toxic to general health.** Minimal precautions required for handling and storage.
- **Easy to apply with brush, roller or coarse spray.**
- **Low odor.**

Limitations

- Selectively removes biological deposits only. For removal of light to moderate atmospheric soiling use Enviro Klean® 2010 All Surface Cleaner. For heavy atmospheric soiling or staining, consult your PROSOCO representative or refer to www.prosoco.com.

TECHNICAL DATA

FORM: Transparent, low viscosity liquid

COLOR: Almost colorless

SPECIFIC GRAVITY: 1.01 g/cc

FLASH POINT: none

VAPOR PRESSURE: 25 mm Hg @ 20° C

SOLUBILITY IN WATER: Complete

pH: 9.5

PREPARATION

Avoid wind drift that may injure passersby, damage vehicles or adjacent properties. Protect and/or divert pedestrian and auto traffic.

Surface Preparation: Drain water from architectural structures (such as fountains) prior to use. Remove heavy growths of moss, ivy, loose surface debris or other contaminants from the dry surface by means of careful scraping and brushing.

During the cleaning operation, minimize any potential for staining or discoloring adjacent surfaces by protecting them from contact with the cleaner or cleaning effluent.

Surface & Air Temperatures: Cleaning effectiveness is reduced when surface and air temperatures fall below 50° F. Do not apply at temperatures below 40° F. If freezing conditions exist prior to application, let masonry thaw.

Equipment: Apply D/2 using a soft bristled brush, roller or coarse spray. Although pressure rinsing is not always required, improved cleaning results are often achieved using pressure rinsing equipment providing 400 to 800 psi at 4-6 gallons per minute. A fan-type spray tip is recommended for best results.

APPLICATION

Before applying, read "Preparation" and "Safety Information."

ALWAYS PRETEST before general application to confirm suitability and desired results. Test according to the following application procedures. Let test area dry thoroughly before inspection.

NOTE: Many types of biological soiling change colors when exposed to D/2. Most discoloration will disappear after thorough water rinsing and weathering.

Application Instructions: Consult product label directions for full EPA-authorized application instructions.

1. Apply full-strength D/2 generously until hard surface is wet.
2. Allow concentrate D/2 to remain on the surface for 2 minutes or longer. If necessary, apply additional D/2 to maintain a wet surface.
3. Mist treated surfaces with water and gently scrub with a non-metallic short-fibered scrub brush to loosen biological soiling.
4. Rinse thoroughly with clean water. Pressure rinsing is highly effective at removing all D/2 and biological soiling from surfaces.
5. If used on food-contact surfaces (such as, but not limited to: picnic benches or bench-table combos, food-stand counters, eating- or food-preparation surfaces, etc.) a potable water rinse must follow cleaning.

It may take several days for the full cleaning effect of D/2 to be realized. When practical, allow two or more weeks for biological soiling to disappear. Repeat as necessary to remove remaining biological soiling.

Coverage Rates: 1 gallon treats 350 to 400 square feet, depending on surface texture, weather conditions at time of application, and the severity of soiling.

SAFETY INFORMATION

Consult product label directions for EPA-authorized

Precautionary Statements: D/2 Architectural Antimicrobial is non-mutagenic, and contains no carcinogenic compounds as defined by NTP, IARC, or OSHA. D/2 is considered essentially non-toxic to general health. D/2 has an oral LD₅₀ (rat) of greater than 5.0 g/kg of body weight.

First Aid

Consult product label directions for full EPA-authorized First-Aid Instructions:

Eye Contact: D/2 can cause moderate eye irritation. Wear safety glasses or splash goggles during transfer of liquid from the manufacturer's container and while scrubbing.

Spill or Leak Procedures: Recover useable material with sponge or mop. D/2 is fully water-soluble, and is biodegradable with dilution. For guidance, contact your State Water Board or regional office of the EPA.

Container Handling, Storage and Disposal: Consult product label directions for full EPA-authorized handling, storage and disposal instructions: Store at moderate temperature in the original, fully labeled container. Keep container tightly closed when not dispensing product. Do not contaminate water, food or feed by storage or disposal.

Do not dispose of effluent directly into storm drains, lakes or streams. Dispose of effluent in accordance with all applicable local, state and federal regulations.

Fire Action and Explosion Hazard Data: NFPA ratings of 0 (minimal) for fire, reactivity, and special hazards. It is stable, even under fire conditions, and will not react with water, acids, or oxidizers. D/2 is non-hazardous for storage and transport according to DOT regulations.

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not use D/2 for purposes other than those specified.

Packaging: D/2 Architectural Antimicrobial is available in quart, 1 gallon and 5 gallon containers, and 55 gallon drums.

WARRANTY

This product is warranted to be free from defects. **Where permitted by law, PROSOCO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of merchantability or fitness for particular purpose.** The purchaser shall be responsible to make his own tests to determine the suitability of this product for his particular purpose.

CUSTOMER CARE

Factory personnel are available for product, environment and job-safety assistance with no obligation. Call 800-255-4255 and ask for Customer Care.

Factory-trained representatives are established in principal cities throughout the continental United States. Call Customer Care at 800-255-4255, or visit our website at www.prosoco.com, for the name of the Enviro Klean® representative in your area.

REMOVING/CONTROLLING BIOLOGICAL SOILING: Advantages & Disadvantages

	Product	Efficacy	Potential harm to masonry	Health/Safety Issues
D/2	D/2 Architectural Antimicrobial	Highly effective and aids in the loosening and detachment of biological deposits.	Rinses cleanly, with no reported adverse effects (pH is 9.5)	Minimal precautions required for handling or storage. NFPA ratings are 0=fire, 0=reactivity, 0=special handling, 1=health (moderate eye irritant). Biodegradable with dilution.
Traditional remedies	Sodium hypochlorite (household bleach, 5%)	Can be highly effective, but requires the addition of a surfactant.	Will form soluble salts, which will reappear as whitish efflorescence. Can also cause some yellowing.	Mild respiratory irritant. Causes severe but temporary eye injury. Contact with ammonia produces hazardous gases.
	Calcium hypochlorite (swimming pool bleach)	Requires prolonged and/or repeated application.	Similar to household bleach, but residual salts are acidic.	Severe skin and eye irritant. In solid form is strong oxidizer with considerable explosion hazard. Decomposes upon contact with acids to give chlorine gas. Harmful to aquatic life.
	Hydrogen peroxide (aqueous, 15%)	Highly effective, but requires the addition of a surfactant.	Often causes distinct reddish discoloration (oxidation of ferrous compounds). Will etch polished limestone and marble.	Severe skin and eye irritant. Higher concentrations (as purchased) may be explosive; do not store near combustible materials.
	Ammonium hydroxide (household ammonia)	Relatively limited as a biocide. Typically requires numerous applications.	Repeated use may lead to discoloration (precipitation of hydroxides).	Well-known respiratory, skin and eye irritant.

MATERIAL SAFETY DATA SHEET



I PRODUCT IDENTIFICATION

MANUFACTURED FOR: PROSOCO, Inc.
3741 Greenway Circle
Lawrence, KS 66046

TELEPHONE NUMBERS:
24-hr. Emergency (INFOTRAC) 800/535-5053

Application & Purchase Information,
8:00 AM – 5:00 PM CST Mon-Fri: 785/865-4200
CUSTOMER SERVICE

PRODUCT TRADE NAME: D/2 Architectural Antimicrobial
Part of the Enviro Klean® family of products.

USE: D/2 Architectural Antimicrobial is an easy-to-use liquid that kills and aids in the removal of a broad spectrum of microorganisms. Effective against gram positive and gram negative bacteria. It is designed for use on outdoor sculpture, monuments, decorative fountains, and stone, brick, terra cotta, concrete, stucco and other hard, non-porous surfaces.

II INGREDIENT INFORMATION

INGREDIENT NAME:

ACTIVE:	(COMMON NAME)	CAS NO.	ACGIH TLV/TWA	OSHA PEL/TWA
Octyl decyl dimethyl ammonium chloride	---	68424-95-3	None established	None established
Dioctyl dimethyl ammonium chloride	---	68424-95-3	None established	None established
Didecyl dimethyl ammonium chloride	---	68424-95-2	None established	None established
Alkyl (C14, 50%; C12, 40%; C16, 10%) dimethyl benzyl ammonium chloride	---	68424-85-1	None established	None established

INERT:

Surfactants	None established	None established
Wetting Agents	None established	None established
Buffers	None established	None established

III PHYSICAL DATA

D/2 Architectural Antimicrobial		BOILING POINT (°F) 209°F	VAPOR PRESSURE (mm Hg) 25	VAPOR DENSITY (Air = 1) 1.3	EVAPORATION RATE (Butyl Acetate = 1) 0.4
NFPA/HMIS 1,0,0,0	FREEZING POINT 16°F	SPECIFIC GRAVITY 1.011	pH 9.5	SOLUBILITY IN WATER 100%	APPEARANCE AND ODOR Clear liquid, unscented

IV FIRE AND EXPLOSION HAZARD DATA

EMERGENCY OVERVIEW

D/2 Architectural Antimicrobial is a clear, unscented liquid. Use of this product under normal working conditions presents no health hazards to the user, other than mild eye irritancy. Material is stable and will not burn. Nontoxic by inhalation. Inhalation of concentrate mists may cause upper respiratory irritation.

FLASH POINT (METHOD): Material is stable and will not burn.

FLAMMABLE LIMITS: Material is stable and will not burn.

EXTINGUISHING MEDIA: Not flammable/nonexplosive.

SPECIAL FIRE FIGHTING PROCEDURES: No special procedures required.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None required.

V HEALTH HAZARD DATA

HUMAN HEALTH EFFECTS: Adverse human health effects are not expected from D/2 Architectural Antimicrobial, based upon the available toxicity data.

D/2 Architectural Antimicrobial is a mild eye irritant; mucous membranes may become irritated by concentrate-mist.

Prolonged skin contact with D/2 Architectural Antimicrobial may irritate the skin. Repeated daily application to the skin without rinsing or continuous contact of D/2 Architectural Antimicrobial on the skin may lead to irritation. Allergic reactions are not anticipated.

NONHUMAN TOXICITY:

Acute Mortality Studies: Oral LD₅₀ (rat): >5.0g/Kg body weight Dermal LD₅₀ (rabbit): >2.0 g/Kg body weight

Dermal Irritation: In a standard test on rabbits, mild irritation was found at 72 hours; well-defined reddening was observed at 7 and 14 days after exposure.

Dermal Sensitization: No allergic reactions occurred in guinea pigs treated with D/2 Architectural Antimicrobial.

Eye Irritation: With or without rinsing water, the irritation scores in rabbits at 24 hours did not exceed 17 (mild irritant) on a scale of 110 (extremely irritating); all scores were normal at seven days.

Carcinogenicity: D/2 Architectural Antimicrobial contains no carcinogenic compounds as defined by the National Toxicology Program (NTP), the International Agency for Research on Carcinogens (IARC), or the Occupational Health and Safety Administration (OSHA).

PRIMARY ROUTES OF EXPOSURE: Skin, eyes, inhalation, ingestion.

CARCINOGEN INFORMATION: Not listed (OSHA, IARC, NTP).

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Allergic reactions are not anticipated.

EFFECTS OF OVEREXPOSURE: None expected based upon the available toxicity data.

EYE CONTACT: Possible mild eye irritation. Caution, including reasonable eye protection, should always be used to avoid eye contact where splashing may occur, such as during spray applications.

SKIN CONTACT: No special precautions required. Gloves recommended for prolonged exposure. Rinse completely from skin after contact.

INHALATION: No special precautions required.

INGESTION: Essentially nontoxic.

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: Immediately rinse the eye with large quantities of cool water; continue 10-15 minutes or until the material has been removed. If present, contact lenses should be removed after 5 minutes of rinsing, then rinsing should resume. Both upper and lower lids should be lifted to facilitate thorough rinsing.

SKIN CONTACT: Minimal effects, if any, from diluted product. Rinse skin with water, rinse shoes and launder clothing before reuse. Reversible reddening may occur in some dermal-sensitive users; thoroughly rinse area. Wear protective gloves if long-term exposure is likely.

INHALATION: Nontoxic. Prolonged exposure of workers to concentrate-mist during spray application may cause reversible irritation of nasal passages or throat. Relocate workers to fresh air.

INGESTION: Essentially nontoxic. Give several glasses of milk or water to dilute; do not induce vomiting. If stomach upset occurs, consult physician. Depending on volume ingested relative to size of individual can cause nausea and diarrhea.

VI REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID: None.

INCOMPATIBILITY (MATERIALS TO AVOID): Chlorine. Quaternary ammonium compounds should not come into contact with chlorine or chlorinated products.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Stable, even under fire conditions, and will not react with water, acids or oxidizers.

VII SPILL OR LEAK PROCEDURES

SPILL, LEAK, WASTE DISPOSAL PROCEDURES: Recover usable material by convenient method. Residual may be removed by wipe or wet mop.

WASTE DISPOSAL METHODS: Fully soluble in water and with dilution is biodegradable. If disposed by sanitary sewer or drain, diluted solutions will not harm sewage-treatment microorganisms. Dispose of in accordance with all applicable local, state, and federal laws. Follow disposal and container disposal instructions on product label.

VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: No special requirements under normal use conditions. Wear a NIOSH approved dust/mist respirator, when mists are present.

VENTILATION: No special ventilation is required during use.

PROTECTIVE CLOTHING: If you experience dermal sensitivity, wear protective clothing such as long-sleeved work shirt and pants, work boots and neoprene gloves to avoid prolonged skin contact. Do not allow clothing to become saturated with product. If work practices cannot be adjusted to avoid excess clothing saturation, splash resistant or Tyvek® clothing and boots may be required.

PROTECTIVE GLOVES: Use Neoprene or PVC gloves as necessary if you experience dermal sensitivity.

EYE PROTECTION: Safety glasses with side shields are recommended during use. If work practices or application technique cause a risk of splashing or excessive wind drift, then splash-resistant goggles may be required.

OTHER PROTECTIVE EQUIPMENT: Access to an eyewash is recommended.

IX SPECIAL PRECAUTIONS

WORK PRACTICES: Proper work practices and planning should be utilized to avoid contact with workers, passersby, and non-masonry surfaces. Do not atomize during application. Beware of wind drift. See the Product Data sheet and label for specific precautions to be taken during use. Smoking, eating and drinking should be discouraged during the use of this, or any chemical product. Wash hands thoroughly after handling.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: No special precautions required. This product is non-hazardous for storage and transport according to the U.S. Department of Transportation Regulations. Store in a cool and dry place. This material does not meet the definition of a hazardous material according to 49 CFR, ICAO, IMDG and the UN Orange Book.

OTHER PRECAUTIONS: None.

X REGULATORY INFORMATION

SHIPPING: Non-hazardous for transport by all modes.

SARA 313 REPORTABLE:

CHEMICAL NAME

CAS

UPPERBOUND CONCENTRATION % BY WEIGHT

N/A

CALIFORNIA PROPOSITION 65:

Contains no chemicals listed under Proposition 65.

EFFICACY INFORMATION: Bactericidal: Effective against gram positive and gram negative bacteria. Efficacy was demonstrated in a standard test using a 60-second exposure of full-strength D/2 Architectural Antimicrobial.

REGISTRATIONS:**US EPA REGISTRATION No.: 56782-2****US EPA Establishment Nos.: 40873-GA-01 & 40873-CA-01****Canadian PCP No.: 26035****Danish Working Environment Authority PR-No.: 1207119**

XI OTHER

MSDS Status: **Date of Revision:** July 25, 2001
 For Product Manufactured After: May 31, 2001
 Changes: N/A – new product.
 Item #: 41045
 Approved By: Regulatory Department

DISCLAIMER:

The information contained on the Material Safety Data Sheet has been compiled from data considered accurate. This data is believed to be reliable, but it must be pointed out that values for certain properties are known to vary from source to source. PROSOCO, Inc. expressly disclaims any warranty express or implied as well as any liability for any injury or loss arising from the use of this information or the materials described. This data is not to be construed as absolutely complete since additional data may be desirable when particular conditions or circumstances exist. It is the responsibility of the user to determine the best precautions necessary for the safe handling and use of this product for his unique application. This data relates only to the specific material designated and is not to be used in combination with any other material. Many federal and state regulations pertain directly or indirectly to the product's end use and disposal of containers and unused material. It is the purchaser's responsibility to familiarize himself with all applicable regulations.

DATE OF PREPARATION: July 25, 2001

Enviro Klean® D/2 Architectural Antimicrobial Cleaning Specification

Specifier Note: The information provided below is intended to guide the Architect in developing specifications for products manufactured by PROSOCO, Inc. and should not be viewed as a complete source of information about the product(s). The Architect should always refer to the Product Data Sheet and MSDS for additional recommendations and for safety information. See also PROSOCO Section 04900 Masonry Restoration & Cleaning.

Specifier Note: Paragraph below is for PART 1 GENERAL, Quality Assurance.

Test Area

Test a minimum 4 ft. by 4 ft. area on each type of masonry. Use manufacturer's application instructions. Let the test panel dry 3 to 7 days before inspection. Keep test panels available for comparison throughout the cleaning project.

Specifier Note: Paragraphs below are for PART 2 PRODUCTS, Manufacturers and Products.

Manufacturer: PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046. Phone: (800) 255-4255; Fax: (785) 830-9797. E-mail: CustomerCare@prosoco.com

Product Description

Enviro Klean® D/2 Architectural Antimicrobial is an antibacterial agent that safely removes a broad spectrum of biological deposits from vertical or horizontal masonry surfaces. Cleaning with D2 removes deposits of fungi, algae, lichen and bacteria typically encountered on building surfaces and monuments.

Technical Data

FORM: Transparent, low viscosity liquid
COLOR: Almost colorless
SPECIFIC GRAVITY: 1.01 g/cc
FLASH POINT: none
VAPOR PRESSURE: 25 mm Hg @ 20 degrees C
SOLUBILITY IN WATER: Complete
pH: 9.5

Limitations

- Selectively removes biological deposits only. For removal of light to moderate atmospheric soiling use Enviro Klean® 2010 All Surface Cleaner. For heavy atmospheric soiling or staining, consult your PROSOCO representative or refer to www.prosoco.com.

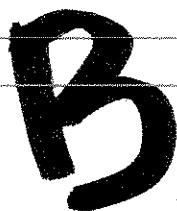
Specifier Note: Paragraphs below are for PART 3 EXECUTION, Installation.

Application

Before applying, read "Protect" and "Precautionary Measures" sections in the Manufacturer's Product Data Sheet for D/2 Architectural Antimicrobial. Do not dilute.

1. Apply full-strength D/2 generously until hard surface is wet.
2. Allow concentrate D/2 to remain on the surface for 2 minutes or longer. If necessary, apply additional D/2 to maintain a wet surface.
3. Mist treated surfaces with water and gently scrub with a nonmetallic short-fibered scrub-brush to loosen biological soiling.
4. Rinse thoroughly with clean water. Pressure rinsing is highly effective at removing all D/2 and biological soiling from surfaces.

Note: If used on food-contact surfaces (such as, but not limited to: picnic benches or bench-table combos, food-stand counters, eating- or food-preparation surfaces, etc.) a potable water rinse must follow cleaning.



PROSOCO
SINCE 1939

Conservare®

H100 Consolidation Treatment

stone & masonry strengthener & water repellent

Of all materials currently and historically employed in construction, masonry is one of the most durable. What has become apparent in recent years, however, is that masonry materials are not as enduring as once believed.

Placed in contemporary urban environments, these "timeless" materials decay at an alarming rate. Some deterioration may be attributed to the masonry's natural weathering process. The majority of the deterioration, however, is the result of oversights in use and maintenance of the masonry, and of the impact that industrialization has had on our environment, i.e. "acid deposition."

The intent of all conservation treatments is to restore the structural integrity to crumbling, decaying masonry and/or provide a means of controlling future decay. The failure of many conservation treatments lies in their inherent dissimilarity to the masonry for which they are proposed as a preservative.

When selecting a conservation treatment, an important consideration is to identify those treatments which display physical and chemical characteristics most similar to the masonry itself.

Conservare® Consolidation Treatments are based on silicic ethyl esters. Their extremely small molecular structure enables them to penetrate deeply into deteriorated masonry surfaces, collecting at contact points between individual stone grains. An internal catalyst and atmospheric humidity then convert the liquid consolidant into a glass-like silicon dioxide (SiO_2) gel which binds the stone particles together.

Exhibiting chemical characteristics and thermal expansion/contraction characteristics which are virtually identical to that of natural stone, the newly deposited SiO_2 cementing matrix replaces the stone's natural cement which has been lost due to weathering influences.

DESCRIPTION AND USE

For badly deteriorated stone that requires consolidation and protection from water, Conservare® H100 is a combination consolidation/water-repellent treatment. This ethyl silicate treatment, modified with a silane water repellent, replaces the natural binding materials while protecting the treated surface from water-related deterioration.

Conservare® H100 may be used on most types of sandstone, limestone, cast stone, stucco, brick and terra cotta. All patching and pointing materials should be in place before application of Conservare® H100.

Conservare® H100 is effective on unpolished marble, travertine and limestone that has been treated with Conservare® HCT (Hydroxylating Conversion Treatment)

ADVANTAGES

- One component — easy-to-use.
- Low viscosity allows deep penetration. Will not form hardened surface crust.
- The new binder is mineral — similar to the original stone — no synthetic polymers.
- Rapid tack free drying — no dirt attraction.
- Forms no byproducts harmful to the masonry.
- Good vapor permeability — the treated surface "breathes."
- New binder is acid resistant — resists acid rain.

Limitations

- Effective consolidation requires thorough laboratory and field pretesting. Contact PROSOCO for information on the recommended test programs.
- Limited shelf life — remains storage-stable for 12 months in sealed containers. Treated areas may bond to silicone and polyurethane molds (frequently used for casting replacement

Conservare® H100 is recommended for these substrates. Always test. Coverage is in square feet/meters per gallon.

Substrate	Type	Use?	Coverage*
Architectural Concrete Block	Smooth	no	N/A
	Split-faced	no	
	Burnished	no	
	Ribbed	no	
Concrete	Brick	yes	Determine via onsite test panels
	Tile	yes	
	Precast Panels	yes	
	Pavers	yes	
	Cast-in-place	yes	
Fired Clay	Brick	yes	Determine via onsite test panels
	Tile	yes	
	Terra Cotta	yes	
	Pavers	yes	
Marble, Travertine, Limestone	Polished	no	N/A
	Unpolished	yes	Determine via onsite test panels
Granite	Polished	no	N/A
	Unpolished	yes	Determine via onsite test panels
Sandstone	Unpolished	yes	Determine via onsite test panels
Slate	Unpolished	yes	Determine via onsite test panels

*Coverage rates vary, depending on degree of deterioration and recommended application procedures. Laboratory and field testing are necessary to confirm desired results and application procedures.

stone). Use a release agent to prevent mold from adhering to the treated surface.

- Not suitable for some types of marble.

TECHNICAL DATA

FORM: Colorless to slight yellow.
SPECIFIC GRAVITY: 0.936
TOTAL SOLID: 47%
pH: N/A
WT./GAL.: 7.79 lbs
FLASH POINT: 110°F (43°C) ASTM D 3278
FREEZE POINT: < -22°F (< -30°C)
VOC: < 600 g/L
ACTIVE SUBSTANCE: Silicic ethyl ester.

PREPARATION

Protect people, vehicles, property, metal, glass, plants, painted and all nonmasonry surfaces from product, splash, fumes and wind drift. Protect and/or divert pedestrian and auto traffic.

The Importance of Pretesting

Since building materials differ in their nature and degree of deterioration, each conservation project poses unique problems and requirements. To gain a full understanding of the ongoing deterioration and determine necessary stabilization/conservation measures, a number of laboratory and field tests are required.

Laboratory testing:

- Evaluates the physical and chemical characteristics of the substrate(s) to confirm whether consolidation is possible.
- Identifies the cause(s) of deterioration and surface preparation procedures necessary for conservation treatment.
- Determines the most appropriate conservation agent(s) and field application procedures.

For more information on the recommended testing program, read the Conservare® Stone Testing Brochure and contact your PROSOCO representative to arrange a job-site visit.

On-site Testing: Following lab testing, a test area should be cleaned and allowed to dry. An application of Conservare® H100 Consolidation Treatment (or Conservare® OH100) is made following specific recommendations provided by the laboratory analysis. The job site test area should be as large as possible and representative of the condition of the entire project. The test area is necessary to confirm application procedures under job site conditions and allow calculation of the masonry's consumption rate. The on-site tests also provide a visible sample of the effects of the treatment on actual job surfaces. Additional core samples can be taken from the test area and tested to verify depth of penetration and proper application procedures.

Following lab and on-site testing, clean the building with the appropriate Sure Klean® cleaner. In most cases, surface contaminants such as carbon crust, salts, pigeon droppings, mildew and atmospheric stains must be completely removed to assure thorough penetration of the Conservare® H100.* In

addition, surface sealers and repellents which may have been applied must be thoroughly removed. Contact Customer Care at 800-255-4255 for additional cleaning recommendations.

*If preconsolidation is necessary, further evaluation will be required to ensure that no undesirable reactions take place between the consolidation treatment and the surface contaminants which may interfere with further conservation measures, i.e. subsequent cleaning, general consolidation, patching/repair, etc.

Surface and Air Temperatures

Protect surface to be treated from direct sunlight for several hours before application. If possible, start treatment when surfaces are shaded. Keep surface temperature relatively cool to prevent too rapid evaporation of Conservare® H100 and to ensure proper penetration. Do not apply during rain, to wet surfaces or when there is a chance of rain. Protect from rain for two days following application. Surface and air temperatures should be between 50°F - 90°F (10°C - 32°C) during application.

APPLICATION

Before use, read "Preparation" and "Safety Information."

Use in concentrate. DO NOT DILUTE OR ALTER. Stir or mix well before use.

Application Instructions

Apply by low-pressure spray, brush or dipping. Larger surfaces should be treated using low pressure spray equipment, small areas with spray tanks. Mobile objects such as sculptures may be treated indoors by dipping or with the use of compresses. Contact Customer Care at 800-255-4255 or your local PROSOCO sales manager for additional information.

Ensure proper penetration and prevent crust formations by applying Conservare® H100 in repeated applications referred to as "cycles." A cycle consists of three successive saturating applications at 5-15 minute intervals. Typical treatments involve two or three cycles (6-9 separate applications). Allow 20 to 60 minutes between cycles. Laboratory testing will determine the optimum delay between applications and between cycles. Additional material should be applied until excess material remains visible on the surface for 60 minutes following the last application. Once this degree of saturation is achieved over the entire surface, the first treatment is complete. Immediately flush excess surface materials using industrial grade MEK (methyl ethyl ketone). If a second treatment is necessary, allow two to three weeks curing time following first treatment.

NOTE: Laboratory testing will determine the absorption profile and conservation capacity of the substrate(s). From this information, the optimal delay between saturating coats, and dwell time between cycles will be prescribed. The work area should be limited to a size that can be treated within the prescribed time periods.

Proper timing of the application process will maximize penetration of the consolidation treatment. Deep penetration is critical to the long term benefits of any consolidation treatment.

Clean up

Clean tools and equipment immediately with mineral spirits, denatured alcohol or an equivalent cleaning solvent. Remove overspray and spills as soon as possible.

Post-treatment

Excess material should be removed before application of repair materials. Areas properly treated with Conservare® H100 can receive PROSOCO's BMC® silicone emulsion paints after the consolidation procedures have been completed.

SAFETY INFORMATION

Warning. Combustible liquid and vapor. May cause irritation. Harmful if inhaled. For use by professional applicators only. Keep out of the reach of children.

Precautions:

Contains: Tetraethylsilicate, Di-n-butyltin diluarate, Isobutyltriethoxysilane, ethyl alcohol and an organic tin compound. May affect the brain or nervous system causing dizziness, headache or nausea. Eliminate local and remote ignition sources that may cause fire or explosion. Use care when applying to heated surfaces. Ethyl alcohol will continue to evolve during product curing.

Use only with adequate ventilation. Provide adequate cross-ventilation in interior applications. Protect passersby and building occupants from product, mists and wind drift. Shut down and cover ventilation systems and air-handling equipment that may allow vapors or mists into occupied building during application and until vapors dissipate. May cause eye, skin and respiratory irritation. Avoid eye contact. Wear splash goggles or a face shield to prevent eye contact. Avoid prolonged skin contact. Wear gloves and long-sleeved work clothing or splash-resistant clothing as needed. Do not breath vapors or mists. Wear a NIOSH-approved dust/mist respirator if mists are present. Wear appropriate respiratory protection if TLV of any component is exceeded.

Storage and Handling: Store and transport upright with lid tightly in place. Store in a cool, dry place away from heat and ignition sources. Close and tighten lid after each dispensing. Do not reuse container or remove the label. **Do not aerosolize or atomize.** Use minimum effective pressure during application. Wash thoroughly after handling. Do not alter, dilute product or use for applications other than specified. **If spilled,** keep from drains and soil. Absorb with inert media. Dispose of contaminated absorbent, container and product in accordance with local, state and federal regulations. Read the MSDS and label for additional precautionary information.

First Aid

Ingestion: Do not induce vomiting. Call a physician, emergency room or poison control center immediately.

Eye Contact: Rinse thoroughly for 15 minutes. Get immediate medical assistance.

Skin Contact: Remove contaminated clothing and wash thoroughly with soap and water. Seek medical assistance if persistent irritation develops. Launder contaminated clothing before reuse.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

24-hour emergency information: INFOTRAC at 800-535-5053

Shelf life is 1 year from the date of manufacture in tightly sealed, unopened container.

WARRANTY

The information and recommendations made are based on our own research and the research of others, and are believed to be accurate. However, no guarantee of their accuracy is made because we cannot cover every possible application of our products, nor anticipate every variation encountered in masonry surfaces, job conditions and methods used. The purchasers shall make their own tests to determine the suitability of such products for a particular purpose.

PROSOCO Inc. warrants this product to be free from defects. **Where permitted by law, PROSOCO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of merchantability or fitness for particular purpose.** The purchaser shall be responsible to make his own tests to determine the suitability of this product for his particular purpose. PROSOCO's liability shall be limited in all events to supplying sufficient product to re-treat the specific areas to which defective product has been applied. Acceptance and use of this product absolves PROSOCO from any other liability, from whatever source, including liability for incidental, consequential or resultant damages whether due to breach of warranty, negligence or strict liability. This warranty may not be modified or extended by representatives of PROSOCO, its distributors or dealers.

CUSTOMER CARE

Factory personnel are available for product, environment and job-safety assistance with no obligation. Call 800-255-4255 and ask for Customer Care - technical support.

Factory-trained representatives are established in principal cities throughout the continental United States. Call Customer Care at 800-255-4255, or visit our website at www.prosoco.com, to find the name of the Conservare® representative in your area.

MATERIAL SAFETY DATA SHEET



I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME AND ADDRESS: PROSOCO, Inc.
3741 Greenway Circle
Lawrence, KS 66046

EMERGENCY TELEPHONE NUMBERS:
8:00 AM – 5:00 PM CST Monday-Friday: 785/865-4200
NON-BUSINESS HOURS (INFOTRAC): 800/535-5053

PRODUCT TRADE NAME: Conservare[®] H100 Consolidation Treatment

II HAZARDOUS INGREDIENTS

CHEMICAL NAME	(COMMON NAME)	CAS NO.	NFPA CODE	ACGIH TLV/TWA	OSHA PEL/TWA
Tetraethylsilicate	(Ethyl silicate)	78-10-4	2,2,0,-	10 ppm	100 ppm
Di-n-butyltindilaurate	(--)	77-58-7	1,3,0,-	NA	NA
Isobutyltriethoxysilane	(--)	017980471	1,3,0,-	1000 ppm	1000 ppm
Ethyl Alcohol	(Ethanol)	64-17-5	3,3,0	1000 ppm	1000 ppm
Organic Tin Compound	(--)	-	NA	0.1 mg/m3 (sn-skin)	NA

Percent content of hazardous ingredients withheld as trade secret pursuant to OSHA regulations.

III PHYSICAL DATA

	BOILING POINT (°F)	VAPOR PRESSURE (mm Hg)	VAPOR DENSITY (Air = 1)	EVAPORATION RATE (Butyl Acetate = 1)
Tetraethylsilicate	302°F	1.0 (68°F)	Unknown	Unknown
Di-n-butyltindilaurate	ND	ND	ND	ND
Isobutyltriethoxysilane	ND	ND	ND	ND
Ethyl Alcohol	180°F	33 (68°F)	3.0	1.9
Organic Tin Compound	> 401°F	0.2 (320°F)	NA	very slow

	SPECIFIC GRAVITY	VOC (g/L)	SOLUBILITY IN WATER	APPEARANCE AND ODOR
Conservare [®] H100 Consolidation Treatment	0.936	<600	Negligible	Clear liquid, alcohol odor

IV FIRE AND EXPLOSION HAZARD DATA

EMERGENCY OVERVIEW

Conservare[®] H100 Consolidation Treatment is a clear liquid with a mild alcohol odor. It is a combustible liquid, remove all potential sources of ignition. Product may irritate skin upon contact and may cause lung damage if inhaled. Do not breath mists. Wear appropriate respiratory protection.

FLASH POINT (METHOD): 110°F (ASTM D 3278)

FLAMMABLE LIMITS: Not determined.

EXTINGUISHING MEDIA: Water mist, carbon dioxide, dry chemical, alcohol-resistant foam, or water fog. Do not use direct water stream. Avoid accumulation of water as product will float.

SPECIAL FIRE FIGHTING PROCEDURES: Do not enter confined fire space without proper protective equipment including a NIOSH/MSHA approved self-contained breathing apparatus. Cool fire exposed containers, surrounding equipment and structures with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and may accumulate in low areas or areas inadequately ventilated. Vapors may also travel along the ground to be ignited at location distant from handling site; flashback of flame to handling site may occur. Never use welding or cutting torch on or near container (even empty) because product (even just residue) can ignite explosively.

V HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Skin, eyes, inhalation, ingestion.

CARCINOGEN INFORMATION: Not listed (OSHA, IARC, NTP).

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: No applicable information found.

EFFECTS OF OVER EXPOSURE: Highly irritating to eyes. Moderately irritating to skin. High concentrations may produce anesthetic or narcotic effect. May cause kidney and liver damage and temporary disorder of sight.

EYE CONTACT: Liquid is highly irritating to the eyes. Vapors are also irritating. Possible moderate corneal injury and temporary disorder of sight.

SKIN CONTACT: Liquid is moderately irritating to the skin after prolonged contact.

INHALATION: Breathing high vapor concentrations or prolonged breathing of lower concentrations can cause nose and throat irritation and may cause headache, dizziness and loss of consciousness. Inhalation of mist may injure blood, liver, kidneys and lungs.

INGESTION: Liquid ingestion may result in vomiting; aspiration of liquid into the lungs must be avoided as liquid contact with the lungs can result in chemical pneumonitis and pulmonary edema/hemorrhage.

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: If in eyes, flush with large amounts of water for 15 minutes, holding eyelids apart to ensure flushing of the entire eye surface. Get medical attention. If persistent irritation occurs, get medical attention.

SKIN CONTACT: Wash with soap and water. Remove contaminated clothing and do not reuse until laundered. If persistent irritation occurs, get medical attention.

INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.

INGESTION: DO NOT INDUCE VOMITING! Get immediate medical attention. If vomiting occurs spontaneously, keep victim's head below hips to prevent breathing vomitus into lungs.

VI REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID: Oxidizing materials, nitric plus acetic acid, and nitric plus sulfuric acid.

INCOMPATIBILITY (MATERIALS TO AVOID): Oxidizing materials, acids, and alkalis.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, silicon dioxide and traces of incompletely burned hydrocarbons. Ethyl alcohol from hydrolysis.

VII SPILL OR LEAK PROCEDURES

SPILL, LEAK, WASTE DISPOSAL PROCEDURES: STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Eliminate potential sources of ignition. Wear appropriate respirator and other protective clothing. Shut off source of leak only if safe to do so. Dike and contain to prevent contact with soils, sewers, and surface and ground waters. Remove with explosion-proof equipment. Soak up residue with a noncombustible absorbent such as clay or vermiculite; place in drums for proper disposal.

WASTE DISPOSAL METHODS: Dispose of in a facility approved under RCRA regulations for hazardous waste. Containers must be leak-proof and properly labeled. Empty container may be thoroughly drained and disposed of in a sanitary landfill with permission of the operator or sent to a licensed reclaimer.

VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Do not breathe mists. If Threshold Limit Value (TLV) of the product or any component is exceeded, a NIOSH/MSHA jointly approved air-supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators under specified conditions. Engineering or administrative controls should be implemented to reduce exposure. A dust/mist respirator may be used in applications where inhalation of spray mists is the only concern.

VENTILATION: Provide sufficient general and/or local exhaust ventilation to maintain exposure below TLV(s). Use explosion-proof ventilation as required to control vapor concentrations below the TLV(s).

PROTECTIVE CLOTHING: Wear protective clothing as required to prevent prolonged skin contact.

PROTECTIVE GLOVES: Wear solvent-resistant gloves to prevent prolonged skin contact..

EYE PROTECTION: Chemical splash goggles or a face shield in compliance with OSHA regulations are advised. Do not wear contact lenses because they may contribute to the severity of an eye injury.

OTHER PROTECTIVE EQUIPMENT: Solvent-resistant boots and headgear as needed depending on application methods. Ready access to an eyewash is recommended. Access to a safety shower is recommended.

IX SPECIAL PRECAUTIONS

WORK PRACTICES: Proper work practices and planning should be utilized to avoid contact with workers, passersby, and non-masonry surfaces. **Do not atomize or aerosolize during application.** Use minimum effective pressure if spraying. Beware of wind drift. Over-application may contribute to fume problems. Always follow published application rates. See the Product Data sheet and label for specific precautions to be taken during use. Smoking, eating and drinking should be prohibited during the use of this product. Wash hands before breaks and at the end of a shift.

This product will continue to evolve vapor during drying and ethyl alcohol during curing. Continue ventilation as needed during curing.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store away from oxidizing materials, in a cool, dry place with adequate ventilation. Keep away from heat and open flames. Keep container tightly closed when not dispensing product.

Wash up with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid). All hazard precautions given in the Data sheet must be observed.

Ground equipment to prevent accumulation of static charge. Containers must be bonded and grounded when pouring or transferring materials.

X REGULATORY INFORMATION

SHIPPING: This product is classified as a combustible under USDOT regulations for domestic ground transport. However, the container sizes offered allow the product to be classed as non-hazardous and would carry the following Proper Shipping Description: NON-HAZARDOUS/NON-REGULATED (UNDER 119 GALLONS PER CONTAINER) provided product is shipped in unopened, factory packaging. Product shipped air or internationally is reclassified as a flammable liquid. Call PROSOCO's Regulatory Department for additional shipping information.

NATIONAL MOTOR FREIGHT CLASSIFICATION: NMFC #: 33980 Sub 2 Class Rate: 55

SARA 313 REPORTABLE:

CHEMICAL NAME	CAS	UPPERBOUND CONCENTRATION % BY WEIGHT
NA		

CALIFORNIA PROPOSITION 65: Contains no chemicals listed under California's Proposition 65.

XI OTHER

MSDS Status: **Date of Revision:** NA – new product
 For Product Manufactured After: NA – new product
 Changes: NA – new product
 Item #: 42025
 Approved By: Regulatory Department

DISCLAIMER:

The information contained on the Material Safety Data Sheet has been compiled from data considered accurate. This data is believed to be reliable, but it must be pointed out that values for certain properties are known to vary from source to source. PROSOCO, Inc. expressly disclaims any warranty express or implied as well as any liability for any injury or loss arising from the use of this information or the materials described. This data is not to be construed as absolutely complete since additional data may be desirable when particular conditions or circumstances exist. It is the responsibility of the user to determine the best precautions necessary for the safe handling and use of this product for his unique application. This data relates only to the specific material designated and is not to be used in combination with any other material. Many federal and state regulations pertain directly or indirectly to the product's end use and disposal of containers and unused material. It is the purchaser's responsibility to familiarize himself with all applicable regulations.

DATE OF PREPARATION: February 16, 2001

Conservare® H100 Consolidation Treatment Masonry Restoration and Cleaning Specification

Specifier Note: The information provided below is intended to guide the Architect in developing specifications for products manufactured by PROSOCO, Inc. and should not be viewed as a complete source of information about the product(s). The Architect should always refer to the Product Data Sheet and MSDS for additional recommendations and for safety information. See also PROSOCO Section 04900 Masonry Restoration & Cleaning.

Specifier Note: Paragraph below is for PART 1 GENERAL, Quality Assurance.

Test Area

Test a minimum 4 ft. by 4 ft. area on each type of masonry. Use manufacturer's application instructions. Let the test area protective treatment cure before inspection. Keep test panels available for comparison throughout the restoration project.

Specifier Note: Paragraphs below are for PART 2 PRODUCTS, Manufacturers and Products.

Manufacturer: PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046. Phone: (800) 255-4255; Fax: (785) 830-9797. E-mail: CustomerCare@prosoco.com

Product Description

Conservare® H100 is a combination consolidation/water repellent treatment. This ethyl silicate treatment, modified with a silane water repellent, replaces the natural binding materials while protecting the treated surface from water-related deterioration.

Conservare® H100 may be used on most types of sandstone, limestone, cast stone, stucco, brick and terra cotta. It is effective on unpolished marble, travertine and limestone that has been treated with Conservare® HCT (Hydroxylating Conversion Treatment).

Technical Data

ACTIVE SUBSTANCE: Ethyl silicate/silane

SOLID CONTENT: 47%

FORM: Colorless to slight yellow.

SPECIFIC GRAVITY: 0.936

FLASH POINT: 110 degrees F (43 degrees C) (ASTM D 3278)

WT./GAL.: 7.79 lbs

VOC: <600 g/L

FREEZE POINT: <22 degrees F (<-30 degrees C)

Limitations

- Effective consolidation requires thorough laboratory and field pretesting. Contact PROSOCO for information on the recommended test programs.
- Limited shelf life - remains storage-stable for 12 months in sealed containers.
- Treated areas may bond to silicone and polyurethane molds (frequently used for casting replacement stone). Use a release agent to prevent mold from adhering to the treated surface.
- Not suitable for some types of marble.

Specifier Note: Paragraphs below are for PART 3 EXECUTION, Installation.

Application

Before applying, read "Protect" and "Precautionary Measures" sections in the Manufacturer's Product Data Sheet for H100 Consolidation treatment. Do not dilute or alter.

Note: Apply by low-pressure spray, brush or dipping. Larger surfaces should be treated using low-pressure spray equipment, small areas with spray tanks. Mobile objects such as sculptures are best treated indoors by dipping or with the use of compresses.

1. Apply Conservare[®] H100 in repeated applications referred to as "cycles." A cycle consists of three successive saturating applications at 5-15 minute intervals. Typical treatments involve two or three cycles (6-9 separate applications).
2. Allow 20 to 60 minutes between cycles. Laboratory testing will determine the optimum delay between applications and cycles.
3. Apply H100 until excess material remains visible on the surface for 60 minutes following the last application.
4. Immediately flush excess surface materials using industrial grade MEK (methyl ethyl ketone).



PROSOCO
SINCE 1939

Conservare®

OH100 Consolidation Treatment

penetrating stone & masonry strengthener

Of all materials currently and historically employed in construction, masonry is one of the most durable. What has become apparent in recent years, however, is that masonry materials are not as enduring as once believed.

Placed in contemporary urban environments, these "timeless" materials decay at an alarming rate. Some deterioration may be attributed to the masonry's natural weathering process. The majority of the deterioration, however, is the result of oversights in use and maintenance of the masonry, and of the impact that industrialization has had on our environment, i.e. "acid deposition."

The intent of all conservation treatments is to restore the structural integrity to crumbling, decaying masonry and/or provide a means of controlling future decay. The failure of many conservation treatments lies in their inherent dissimilarity to the masonry for which they are proposed as a preservative. When selecting a conservation treatment, an important consideration is

to identify those treatments with physical and chemical characteristics similar to the masonry itself.

Conservare® Consolidation Treatments are based on silicic ethyl esters. Their extremely small molecular structure enables them to penetrate deeply into deteriorated masonry surfaces, collecting at contact points between individual stone grains. An internal catalyst and atmospheric humidity then convert the liquid consolidant into a glass-like silicon dioxide (SiO_2) gel which binds the stone particles together.

Exhibiting chemical characteristics and thermal expansion/contraction characteristics which are virtually identical to that of natural stone, the newly deposited SiO_2 cementing matrix replaces the stone's natural cement which has been lost due to weathering influences.

DESCRIPTION AND USE

Conservare® OH100 is a ready-to-use consolidation treatment that stabilizes masonry by replacing the natural binding materials, lost due to weathering, with silicon dioxide. When properly applied, Conservare® OH100 penetrates deeply, does not form a dense surface crust, and retains the substrate's natural vapor permeability.

In addition to the general consolidation of severely deteriorated masonries, Conservare® OH100 is an effective pretreatment for friable substrates that need to be strengthened before cleaning, patching or coating. Conservare® OH100 may be used on most types of natural stone, concrete, stucco, brick, terra cotta, etc.

Conservare® OH100 is effective on unpolished marble, travertine and limestone that has been treated with Conservare® HCT (Hydroxylating Conversion Treatment).

ADVANTAGES

- One component — easy-to-use. Strengthens deteriorated stone.
- Low viscosity allows deep penetration. Will not form hardened surface crust.
- The new binder is mineral — similar to the original stone — no synthetic polymers.
- Rapid tack free drying — no dirt attraction.
- Forms no byproducts harmful to the masonry.
- Good vapor permeability — treated surfaces "breathe."
- New binder is acid resistant — resists acid rain.

Limitations

- Effective consolidation requires thorough laboratory and field pretesting. Contact PROSOCO for information on the recommended test programs.
- Limited shelf life — remains storage stable for approximately 12 months in sealed containers. Treated areas may bond to silicone and polyurethane molds (frequently used for casting

Conservare® OH100 is recommended for these substrates. Always test. Coverage is in square feet/meters per gallon.

Substrate	Type	Use?	Coverage
Architectural Concrete Block	Smooth	no	N/A
	Split-faced	no	
	Burnished Ribbed	no	
Concrete	Brick	yes	Determine via onsite test panels
	Tile	yes	
	Precast Panels	yes	
	Pavers	yes	
Fired Clay	Cast-in-place	yes	Determine via onsite test panels
	Brick	yes	
	Tile	yes	
	Terra Cotta Pavers	yes	
Marble, Travertine, Limestone	Polished	no	N/A
	Unpolished	yes	Determine via onsite test panels
Granite	Polished	no	N/A
	Unpolished	yes	Determine via onsite test panels
Sandstone	Unpolished	yes	Determine via onsite test panels
Slate	Unpolished	yes	Determine via onsite test panels

Laboratory and field testing are necessary to confirm desired results and application procedures. Coverage rates vary, depending on degree of deterioration and recommended application procedures.

replacement stone). Use a release agent to prevent molding compounds from adhering to the treated surface.

- Not suitable for some types of marble.

TECHNICAL DATA

FORM: Colorless to slight yellow.
SPECIFIC GRAVITY: 0.997
TOTAL SOLIDS: 43.5%
pH: N/A
WT./GAL.: 8.30 lbs.
FLASH POINT: 104°F (40°C)
FREEZE POINT: < -22°F (< -30°F)
VOC: 530 g/L
ACTIVE SUBSTANCE: Tetra ethyl silicate.
ACTIVE CONTENT: 100%

PREPARATION

Avoid application near fire or flame. Applicators should avoid smoking at all times. Protect people, vehicles, property, metal, glass, foliage, painted surfaces and all nonmasonry surfaces from contact with product, fumes or wind drift. Protect and/or divert pedestrian and auto traffic.

Take care to avoid exposing building occupants to fumes. When applying to occupied buildings, cover air intakes and air conditioning vents that may come into contact with the product. Maintain adequate ventilation when working on interior surfaces. When working in an enclosed area, self-contained breathing apparatus should be worn.

The Importance of Pretesting

Since building materials differ in their nature and degree of deterioration, each conservation project poses unique problems and requirements. To gain a full understanding of the ongoing deterioration and determine necessary stabilization/conservation measures, a number of laboratory and field tests are required.

- Evaluates the physical and chemical characteristics of the substrate(s) to confirm whether consolidation is possible.
- Identifies the cause(s) of deterioration and surface preparation procedures necessary for conservation treatment.
- Determines the most appropriate conservation agent(s) and field application procedures.

For more information on the recommended testing program, read the Conservare® Stone Testing Brochure and contact your PROSOCO representative to arrange a job-site visit.

On-site Testing: Following lab testing, a test area should be cleaned and allowed to dry. An application of Conservare® OH100 Consolidation Treatment is made following specific recommendations provided by the laboratory analysis. The jobsite test area should be as large as possible and representative of the condition of the entire project. The test area is necessary to confirm application procedures under job site conditions and allow calculation of the masonry's consumption rate. The on-site tests also provide a visible sample of the effects of the treatment

on actual job surfaces. Additional core samples can be taken from the test area and tested to verify depth of penetration and proper application procedures.

Surface Preparation

Following lab and on-site testing, clean the building with the appropriate Sure Klean® product. In most cases, surface contaminants such as carbon crust, salts, pigeon droppings, mildew and atmospheric stains must be completely removed to assure thorough penetration of Conservare® OH100®. In addition, surface sealers and repellents which may have been applied must be thoroughly removed. Contact Customer Care at (800) 255-4255 for additional cleaning recommendations.

*In cases where even the most sympathetic cleaning program would remove an unacceptable level of surface detail, Conservare® OH100 Consolidation Treatment may be applied to the soiled surface to preconsolidate the stone. If such pre-consolidation is necessary, further evaluation will be required to ensure that no undesirable reactions take place between the consolidation treatment and the surface contaminants which may interfere with further conservation measures, i.e. subsequent cleaning, general consolidation, patching/repair, etc.

Surface and Air Temperatures

Protect surface to be treated from direct sunlight for several hours prior to beginning application. When possible, initiate treatment when surfaces are shaded. Keep surface temperature relatively cool to prevent too rapid evaporation of Conservare® OH100 and to ensure proper penetration. Do not apply during rain, to wet surfaces or when there is a chance of rain. Protect from rain for two days following application. Surface and air temperatures should be between 50°F - 90°F (10°C - 32°C) during application. Relative humidity should be greater than 40%. Excessive surface heating can be prevented by shading with awnings.

APPLICATION

Before use, read "Preparation" and "Safety Information."

Dilutions

Use in concentrate. **DO NOT DILUTE OR ALTER.** Stir or mix well before use.

Application Instructions

Apply by low-pressure spray, brush or dipping. Larger surfaces should be treated using low-pressure spray equipment, small areas with spray tanks. Mobile objects such as sculptures are best treated indoors by dipping or with the use of compresses. Contact Customer Care at 800-255-4255 or your local sales manager for more information.

Ensure proper penetration and prevent crust formations by applying Conservare® OH100 in repeated applications referred to as "cycles." A cycle consists of three successive saturating applications at 5-15 minute intervals.

Typical treatments involve two or three cycles (6-9 separate applications). Allow 20 to 60 minutes between cycles. Laboratory testing will determine the optimum delay between applications

and between cycles. Additional material should be applied until excess material remains visible on the surface for 60 minutes following the last application. Once this degree of saturation is achieved over the entire surface, the first treatment is complete. Immediately flush excess surface materials using industrial grade MEK (methyl ethyl ketone) or mineral spirits. If a second treatment is necessary, allow two to three weeks curing time following first treatment.

Note: Laboratory testing will determine the absorption profile and conservation capacity of the substrate(s). From this information, the optimal delay between saturating coats, and dwell time between cycles will be prescribed. The work area should be limited to a size that can be treated within the prescribed time periods.

Proper timing of the application process will maximize penetration of the consolidation treatment. Deep penetration is critical to the long-term benefits of any consolidation treatment.

Clean up: Clean tools and equipment immediately with mineral spirits, denatured alcohol or an equivalent cleaning solvent. Remove overspray and spills as soon as possible.

Post-treatment

Areas properly treated with Conservare® OH100 can receive stone repair materials, regrouting materials and PROSOCO's BMC® silicone emulsion paints after the consolidation procedures have been completed. After curing apply the appropriate Sure Klean® Weather Seal water repellent to ensure protection from further water damage.

SAFETY INFORMATION

Warning. Combustible liquid and vapor. May be harmful if swallowed. Vapor harmful. For use by professional applicators only. Keep out of the reach of children.

Precautionary Measures

Contains: Ethyl alcohol, Ethyl Silicate, Organic tin compound, D-n-butyltindilaurate. May affect the brain or nervous system causing dizziness, headache or nausea. Causes eye, skin and respiratory tract irritation.

Vapors may ignite explosively. Keep away from heat, sparks and flame. Do not smoke. Vapors may ignite explosively and may travel along the ground or by ventilation to ignition sources far from the application site. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Powered ventilation and application equipment must be explosion proof. Always bond and ground when transferring between containers. Do not cut, grind, weld, or drill on or near this container, even if empty. Retains product residues and vapors and may be hazardous when empty.

Use only with adequate ventilation. Do not breathe vapors or mist. Ensure fresh air entry during application and drying. Ethyl alcohol will evolve during curing. When applying to exteriors of occupied buildings, make sure all windows, exterior intakes and

air conditioning vents are covered and air handling equipment are shut down during application and remain so for 1 hour following application. Avoid exposing building occupants to fumes and mists. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear an appropriate, properly fitted, NIOSH-approved respirator during and after application. Can be absorbed through skin. Avoid contact with eyes, skin and clothing. Wear splash goggles and protective clothing to avoid splash to eyes and skin. Wash thoroughly after handling. Read the MSDS and label for additional precautionary information.

First Aid

Ingestion: If swallowed, call a physician immediately. Do not induce vomiting except at the instruction of a physician. If vomiting occurs, keep head below waist to prevent entry of liquid into lungs.

Eye Contact: Rinse eyes thoroughly for 15 minutes. Get medical assistance.

Skin Contact: Rinse thoroughly. Get medical attention if irritation persists. Launder contaminated clothing before reuse.

Inhalation: Remove to fresh air. Give artificial respiration if not breathing. Get immediate medical attention.

24-hour emergency information: INFOTRAC at 800-535-5053.

Storage and Handling

Store away from heat and open flames in cool, dry place with adequate ventilation. Keep tightly closed when not dispensing. Vapors may pressurize container. Use care when opening. Do not use pressure to empty. Do not reuse or remove the label. If spilled, follow all precautionary instructions. Keep from water and soil. Contain and absorb with inert material. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

Do not alter or dilute the product except as specified. Do not use for any other purpose. Always protect passersby, building occupants and nonmasonry surfaces. Refer to the MSDS for additional precautionary information.

NOTICE: Reports have associated repeated and prolonged occupational exposure with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Container Disposal

Hazardous when empty. Follow all precautionary instructions. Drain thoroughly and dispose of in a sanitary landfill (check local restrictions) or send to a properly licensed reconditioner.

Shelf life is 1 year from date of manufacture when product is in a tightly sealed, unopened container.

WARRANTY

The information and recommendations made are based on our own research and the research of others, and are believed to be accurate. However, no guarantee of their accuracy is made because we cannot cover every possible application of our products, nor

anticipate every variation encountered in masonry surfaces, job conditions and methods used. The purchasers shall make their own tests to determine the suitability of such products for a particular purpose.

PROSOCO Inc. warrants this product to be free from defects. **Where permitted by law, PROSOCO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of merchantability or fitness for particular purpose.** The purchaser shall be responsible to make his own tests to determine the suitability of this product for his particular purpose. PROSOCO's liability shall be limited in all events to supplying sufficient product to re-treat the specific areas to which defective product has been applied. Acceptance and use of this product absolves PROSOCO from any other liability, from whatever

source, including liability for incidental, consequential or resultant damages whether due to breach of warranty, negligence or strict liability. This warranty may not be modified or extended by representatives of PROSOCO, its distributors or dealers.

CUSTOMER CARE

Factory personnel are available for product, environment and job-safety assistance with no obligation. Call 800-255-4255 and ask for Customer Care.

Factory-trained representatives are established in principal cities throughout the continental United States. Call Customer Care at 800-255-4255, or visit our website at www.prosoco.com, for the name of the Conservare® representative in your area.

MATERIAL SAFETY DATA SHEET



I PRODUCT IDENTIFICATION

**MANUFACTURER'S NAME
AND ADDRESS:**

PROSOCO, Inc.
3741 Greenway Circle
Lawrence, Kansas 66046

EMERGENCY TELEPHONE NUMBERS:

8:00 AM - 5:00 PM CST Monday-Friday: 785/865-4200
NON-BUSINESS HOURS (INFOTRAC): 800/535-5053

PRODUCT TRADE NAME:

Conservare® OH100 Consolidation Treatment

II HAZARDOUS INGREDIENTS

CHEMICAL NAME	(COMMON NAME)	CAS NO.	NFPA CODE	ACGIH TLV/TWA	OSHA PEL/TWA
Di-n-butyltindilaurate	(-)	77-58-7	1,3,0,-	Not Established	Not Established
Organic Tin Compound	(-)	-	Unknown	0.1 mg/m ³	0.1 mg/m ³
Ethyl Alcohol	(Ethanol)	64-17-5	3,3,0,-	1000 ppm	1000 ppm
Tetra ethyl silicate	(Ethyl Silicate)	78-10-4	2,2,0,-	10 ppm	100 ppm

* CONTAINS SOME OR ALL OF THE LISTED INGREDIENTS.

III PHYSICAL DATA

	BOILING POINT (°F)	VAPOR PRESSURE (mm Hg)	VAPOR DENSITY (Air=1)	EVAPORATION RATE (1=Butyl Acetate)
Di-n-butyltindilaurate	N/A	N/A	N/A	N/A
Organic Tin Compound	>401	0.2 (320°F)	N/A	Very Slow
Ethyl Alcohol	180	33 (68°F)	3.0	1.9
Tetra ethyl silicate	302	1.0 (68°F)	Unknown	Unknown

	SPECIFIC GRAVITY	SOLUBILITY IN WATER	APPEARANCE AND ODOR
Conservare® OH100 Consolidation Treatment	0.997 (@ 77°F)	Negligible	Clear liquid, alcohol odor

IV FIRE AND EXPLOSION HAZARD DATA

EMERGENCY OVERVIEW

Conservare® OH100 Consolidation Treatment is a clear liquid with a mild alcohol odor. It is a combustible liquid, remove all potential sources of ignition. Product may irritate skin upon contact and may cause lung damage if inhaled. Wear appropriate respiratory protection.

FLASH POINT (Method): 104°F (40°C) (closed cup)

FLAMMABLE LIMITS: Not determined.

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, alcohol-resistant foam, sand or water-mist. Do not use direct water stream. Do not use direct water stream. Avoid accumulation of water as product will float.

SPECIAL FIRE FIGHTING PROCEDURES: Do not enter confined fire space without proper protective equipment including a NIOSH/MSHA approved self-contained breathing apparatus. Cool fire exposed containers, surrounding equipment and structures with water.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and may accumulate in low areas or areas inadequately ventilated. Vapors may also travel along the ground to be ignited at location distant from handling site; flashback of flame to handling site may occur. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. As a result of hydrolysis, flammable vapors may accumulate in the container head space.

COMBUSTIBLE! Keep container tightly closed. Isolate from oxidizers, heat, and open flame. Closed containers may explode if exposed to extreme heat. Applying to hot surfaces requires special precautions.

V HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Inhalation, skin, eyes.

CARCINOGEN INFORMATION: Not listed (OSHA, IARC, NTP).

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: This product is damaging to the liver and kidneys, and is also toxic to the lungs. Product also causes acute dermatitis and has a narcotic effect.

EFFECTS OF OVEREXPOSURE: Highly irritating to eyes. Moderately irritating to skin. High concentrations may produce anesthetic or narcotic effect. May cause kidney and liver damage and temporary disorder of sight.

EYE CONTACT: Liquid is highly irritating to the eyes. Vapors are also irritating. Possible moderate corneal injury and temporary disorder of sight.

SKIN CONTACT: Liquid is moderately irritating to the skin. Repeated, prolonged contact can result in defatting to the skin which may lead to dermatitis.

INHALATION: Breathing high vapor concentrations or prolonged breathing of lower concentrations can cause nose and throat irritation and may cause headache, dizziness and loss of consciousness.

INGESTION: Liquid ingestion may result in vomiting; aspiration of liquid into the lungs must be avoided as liquid contact with the lungs can result in chemical pneumonitis and pulmonary edema/hemorrhage.

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: If in eyes, flush with large amounts of water for 15 minutes, holding eyelids apart to ensure flushing of the entire eye surface. Get medical attention immediately.

SKIN CONTACT: Remove material with a waterless skin cleaner, then wash with plenty of soap and water. Remove contaminated clothing and do not reuse until laundered. If persistent irritation occurs, get medical attention.

INHALATION: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention. Designate the product.

INGESTION: **DO NOT INDUCE VOMITING!** Get immediate medical attention. Designate the product. If vomiting occurs spontaneously, keep victim's head below hips to prevent breathing vomitus into lungs.

VI REACTIVITY DATA

STABILITY: Stable at ambient temperatures and atmospheric pressure

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY (MATERIALS TO AVOID): Oxidizing materials, acids, and alkalis, water

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, silicon dioxide and traces of incompletely burned hydrocarbons. Ethyl alcohol from hydrolysis.

VII SPILL OR LEAK PROCEDURES

SPILL, LEAK AND WASTE DISPOSAL PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Eliminate potential sources of ignition. Wear appropriate respirator and other protective clothing. Shut off source of leak only if safe to do so. Dike and contain to prevent migration to sewers, soil and surface and ground water. Remove with explosion-proof equipment. Soak up residue with a noncombustible absorbent such as clay or vermiculite; place in drums for proper disposal.

WASTE DISPOSAL METHODS: Dispose of in a facility approved under RCRA regulations for hazardous waste. Containers must be leak-proof and properly labeled.

VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Do not breath mists. Wear a NIOSH approved dust/mist respirator as necessary. If Threshold Limit Value (TLV) of the product or any component is exceeded, a NIOSH/MSHA jointly approved air-supplied respirator is advised in absence of proper environmental control. Engineering or administrative controls should be implemented to reduce exposure.

VENTILATION: Provide sufficient general and/or local exhaust ventilation to maintain exposure below TLV(s). Use explosion-proof ventilation as required to control vapor concentrations below the TLV(s). Ventilation may be required during product drying and curing.

PROTECTIVE CLOTHING: Wear protective clothing as required to prevent skin contact.

PROTECTIVE GLOVES: Wear solvent-resistant gloves, such as butyl rubber.

EYE PROTECTION: Chemical splash goggles in compliance with OSHA regulations are recommended. Do not wear contact lenses because they may contribute to the severity of an eye injury.

OTHER PROTECTIVE EQUIPMENT: Solvent-resistant boots and headgear as required. An eyewash should be easily accessible from the work area. Access to a safety shower is recommended.

IX SPECIAL PRECAUTIONS

WORK PRACTICES: Proper work practices and planning should be utilized to avoid contact with workers, passersby, and non-masonry surfaces. Do not atomize during application. Beware of wind drift. Over-application may contribute to fume problems. Always follow published application rates. See the Product Data sheet and label for specific precautions to be taken during use. **This product is combustible!** Always bond and ground containers during transfer. Eliminate all sources of ignition, even remote sources, as vapors may travel some distance. Smoking, eating and drinking should be prohibited during the use of this product. Wash hands before breaks and at the end of a shift.

This product will continue to evolve vapor during drying and ethyl alcohol during curing. Continue ventilation as needed during curing.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store away from oxidizing materials, in a cool, dry place with adequate ventilation. Keep away from heat and open flames. Keep container tightly closed when not dispensing product.

Wash up with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse.

Containers of this material may be hazardous when emptied, since emptied containers retain product residues (vapor, liquid, and/or solid). All hazard precautions given in the Data sheet must be observed.

Ground equipment to prevent accumulation of static charge. Containers must be bonded and grounded when pouring or transferring materials.

OTHER PRECAUTIONS: Environmental Hazards - Keep out of surface water and watercourses or sewers entering or leading to surface waters.

X REGULATORY INFORMATION

SHIPPING:

This product is not regulated when shipped domestic ground in its original, complete packaging. The product is reclassified as a hazardous material for shipping by air, ocean, or in international commerce. Consult with PROSOCO's Regulatory Department for shipping information.

National Motor Freight Classification:

NMFC#33980 Class Rate: 55

SARA 313 Reportable:

Chemical name	CAS	Upperbound Concentration % by Weight
None		

XI OTHER

MSDS Status: **Date of Revision:** July 28, 2000
 For Product Manufactured After: September 27, 2000
 Changes: NA
 Approved By: Product Stewardship Committee

DISCLAIMER:

The information contained on the Material Safety Data Sheet has been compiled from data considered accurate. This data is believed to be reliable, but it must be pointed out that values for certain properties are known to vary from source to source. PROSOCO, Inc. expressly disclaims any warranty express or implied as well as any liability for any injury or loss arising from the use of this information or the materials described. This data is not to be construed as absolutely complete since additional data may be desirable when particular conditions or circumstances exist. It is the responsibility of the user to determine the best precautions necessary for the safe handling and use of this product for his unique application. This data relates only to the specific material designated and is not to be used in combination with any other material. Many federal and state regulations pertain directly or indirectly to the product's end use and disposal of containers and unused material. It is the purchaser's responsibility to familiarize himself with all applicable regulations.

DATE OF PREPARATION: July 28, 2000

Conservare® OH100 Consolidation Treatment Masonry Restoration and Cleaning Specification

Specifier Note: The information provided below is intended to guide the Architect in developing specifications for products manufactured by PROSOCO, Inc. and should not be viewed as a complete source of information about the product(s). The Architect should always refer to the Product Data Sheet and MSDS for additional recommendations and for safety information. See also PROSOCO Section 04900 Masonry Restoration & Cleaning.

Specifier Note: Paragraph below is for PART 1 GENERAL, Quality Assurance.

Test Area

Test a minimum 4 ft. by 4 ft. area on each type of masonry. Use manufacturer's application instructions. Let the test area protective treatment cure before inspection. Keep test panels available for comparison throughout the restoration project.

Specifier Note: Paragraphs below are for PART 2 PRODUCTS, Manufacturers and Products.

Manufacturer: PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046. Phone: (800) 255-4255; Fax: (785) 830-9797. E-mail: CustomerCare@prosoco.com

Product Description

Conservare® OH100 is a ready-to-use ethyl silicate consolidation treatment that stabilizes masonry by replacing the natural binding materials lost due to weathering with silicone dioxide. When properly applied, Conservare® OH100 penetrates deeply, does not form a dense surface crust, and retains the substrate's natural vapor permeability.

In addition to the general consolidation of severely deteriorated masonries, Conservare® OH100 is an effective pretreatment for friable substrates that need to be strengthened before cleaning, patching or coating. Conservare® OH100 may be used on most types of natural stone, concrete, stucco, brick, terra cotta, etc. It also is effective on unpolished marble, travertine and limestone that has been treated with Conservare® HCT (Hydroxylating Conversion Treatment).

Technical Data

ACTIVE SUBSTANCE: Ethyl silicate
ACTIVE CONTENT: 100%
FORM: Colorless to slight yellow.
SPECIFIC GRAVITY: 0.997
FLASH POINT: 104 degrees F (40 degrees C)
WT./GAL.: 8.30 lbs.
FREEZE POINT: <-22 degrees F (<-30 degrees C)

Limitations

- Effective consolidation requires thorough laboratory and field pretesting. Contact PROSOCO for information on the recommended test programs.
- Limited shelf life - remains storage stable for approximately 12 months in sealed containers.
- Treated areas may bond to silicone and polyurethane molds (frequently used for casting replacement stone). Use a release agent to prevent molding compounds from adhering to the treated surface.
- Not suitable for some types of marble.

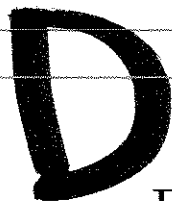
Specifier Note: Paragraphs below are for PART 3 EXECUTION, Installation.

Application

Before applying, read "Protect" and "Precautionary Measures" sections in the Manufacturer's Product Data Sheet for OH100 Consolidation Treatment. Do not dilute or alter.

Note: Apply by low-pressure spray, brush or dipping. Larger surfaces should be treated using low-pressure spray equipment, small areas with spray tanks. Mobile objects such as sculptures are best treated indoors by dipping or with the use of compresses.

1. Apply Conservare® OH100 in repeated applications referred to as "cycles." A cycle consists of three successive saturating applications at 5-15 minute intervals. Typical treatments involve two or three cycles (6-9 separate applications).
2. Allow 20 to 60 minutes between cycles. Laboratory testing will determine the optimum delay between applications and between cycles.
3. Apply OH100 until excess material remains visible on the surface for 60 minutes following the last application.
4. Immediately flush excess surface materials using industrial grade MEK (methyl ethyl ketone) or mineral spirits. If a second treatment is necessary, allow two to three weeks curing time following first treatment.



PROSOCO
SINCE 1939

►SURE KLEAN►
Weather Seal

Siloxane PD

long-lasting, prediluted water repellent

DESCRIPTION AND USE

Sure Klean® Weather Seal Siloxane PD (predilute) is a ready-to-use, water-based silane/siloxane water repellent for concrete, GFRG, and most masonry and stucco surfaces. Siloxane PD will not impair the natural breathing characteristics of treated surfaces. It helps masonry resist cracking, spalling, staining and other damage related to water intrusion. Low odor and alkaline stable, Siloxane PD is ideal for field and in-plant application.

ADVANTAGES

- Penetrates deeply for long-lasting protection on vertical or horizontal surfaces.
- Service life is estimated at more than 10 years.
- Water-based formula minimizes explosion and fire hazards of alcohol or solvent- based water repellents.
- Easy cleanup with Enviro Klean® 2010 All Surface Cleaner.
- Low odor for safer application to occupied buildings.
- Alkaline stable — suitable for new “green” concrete.
- Ready-to-use product. No on-site dilution required.

Siloxane PD is recommended for these substrates.
Always test. Coverage is in square feet/meters per gallon.

Substrate	Type	Use?	Coverage
Concrete	Brick❖	yes	150-200 sq. ft. 14-19 sq. m.
	Tile	yes	
	Precast Panels	yes	
	Pavers	yes	
	Cast-in-place	yes	
Fired Clay	Brick	yes	100-175 sq. ft. 9-16 sq. m.
	Tile	yes	
	Terra Cotta	yes	
	Pavers	yes	
Marble, Travertine, Limestone	Polished	no	N/A
	Unpolished	no	N/A
Granite	Polished	no	N/A
	Unpolished*	yes	175-250 sq. ft. 16-23 sq. m.
Sandstone	Unpolished	yes	75-125 sq. ft. 7-12 sq. m.
Slate	Unpolished*	yes	150-250 sq. ft. 14-23 sq. m.

Always test to ensure desired results.

Coverage estimates depend on surface texture and porosity.

❖ Sure Klean® Custom Masonry Sealer is a more appropriate product.

*May not be suitable for some dense surfaces. Always test.

See specific dense surface application instructions.

Limitations

- Won't keep water out of cracks, defects or open joints.

TECHNICAL DATA

ACTIVE SUBSTANCE: Silane/Siloxane emulsion

FORM: White milky liquid

SPECIFIC GRAVITY: 0.996

ACTIVE CONTENT: 7%

pH: 4-5

WT./GAL.: 8.29 lbs.

FLASH POINT: >212°F (100°C) ASTM D 3278

FREEZE POINT: 32°F (0°C)

VOC: 339 g/L (ASTM D 3960)

Performance Tests

Laboratory testing shows Siloxane PD to be a highly effective general-purpose water repellent/chloride screen.

ASTM E 514 Standard Test Method for Water Penetration
and Leakage Through Masonry
(compared to untreated control) 100%

ASTM C 140 Reduction of water absorption
(compared to untreated control) 96%

ASTM C 67 Reduction of water absorption
(compared to untreated control) 96%

Rilem II.4 Tube Test
5.0 milliliter tube 0.2 ml loss

Surface deterioration/discoloration: None

Penetration (depending on substrate) 1-10 mm

Resistance to:
Sunlight Excellent
Alkalinity Excellent

Surface Appearance
(after application) No change

Siloxane PD is not suitable for application to synthetic resin paints, gypsum, or other nonmasonry surfaces. The product may interfere with adhesion of paints and coatings. Always test for compatibility.

PREPARATION

Protect people, vehicles, property, plants, windows and all nonmasonry surfaces from product, splash, residue, fumes and wind drift. Protect and/or divert foot and auto traffic.

Thoroughly clean the surface using the appropriate Sure Klean® or Enviro Klean® product. Clean newly constructed and repointed surfaces before application. Siloxane PD won't impair adhesion of most sealing and caulking compounds. Always test for compatibility.

Though Siloxane PD may be applied to slightly damp surfaces, best performance is achieved on clean, visibly dry and absorbent surfaces. Excessive moisture inhibits penetration, reducing the service life and performance of the treatment.

Protect window glass before using Siloxane PD. Sure Klean® Strippable Masking is effective protection for use with this product. If protecting windows is impractical, follow these steps:

1. Clean window glass thoroughly before applying Siloxane PD to nearby concrete or masonry.
2. Don't use Siloxane PD in wind or when air or surface temperatures are hotter than 95°F (35°C).
3. Try to keep Siloxane PD off the glass.
4. After treated surfaces have been protected from water for 6 hours, if product is on window glass, clean as soon as possible with soap and warm water. Alternatively use Enviro Klean® 2010 All Surface Cleaner to remove dried residues within 3-5 days.

Surface & Air Temperatures

Best surface and air temperatures are 40°F - 95°F (4°-35°C) during use and for 8 hours after. If freezing conditions exist before application, let masonry thaw. Siloxane PD's water carrier may freeze at low temperatures or evaporate in high temperatures. Both conditions impair penetration and results. Cleanup is more difficult from surfaces hotter than 95°F (35°C).

Equipment

Apply with brush, roller or low-pressure spray (<50 psi). Fan tips are recommended for sprayers. Avoid atomization of material.

APPLICATION

Before use, read "Preparation" and "Safety Information."

ALWAYS TEST each type of surface before overall application for suitability and results. Test using the following application instructions. Let test area dry thoroughly before inspection.

DO NOT DILUTE OR ALTER

Vertical Application Instructions

For best results, apply Siloxane PD "wet-on-wet" to a visibly dry and absorbent surface.

Spray: Saturate from the bottom up, creating a 4" to 8" (15 to 20 cm) rundown below the spray contact point.

Let the first application penetrate for 5-10 minutes. Resaturate. Less will be needed for the second application.

Brush or roller: Saturate uniformly. Let Siloxane PD penetrate for 5 to 10 minutes. Brush out heavy runs and drips that don't penetrate.

Horizontal Application Instructions

1. Saturate in a single application. Use enough to keep the surface wet for 2 to 3 minutes before penetration.
2. Broom out puddles until they soak in.

Dense Surface Application Instructions

Apply a single coat. Use enough Siloxane PD to completely wet the surface without creating drips, puddles or rundown. **DO NOT OVERAPPLY.** Test for application rate.

Treated surfaces dry to touch in 1 hour. Protect surfaces from rainfall for 6 hours following treatment. Protect from foot and vehicle traffic until visibly dry. Many surfaces need several days to develop full water repellency.

Clean up

Clean tools, equipment, and overspray with soap and warm water.

Paint Adhesion

Always test to make sure paint sticks to treated surfaces. Improve adhesion before painting by pressure water-rinsing the treated surface, then letting it dry.

Some cementitious coatings, plaster, stucco, etc., may not adhere well to treated surfaces. Install them first and let them thoroughly cure before applying Siloxane PD.

Always test to verify compatibility between Siloxane PD and other proposed surface treatments.

SAFETY INFORMATION

Caution. May cause eye and skin irritation. For use by professional applicators only. Keep out of the reach of children.

Precautions

Contains: Methylhydrogen siloxane, alkyl alkoxysilane. Avoid eye contact. Wear safety glasses or splash goggles depending on application procedures. Avoid prolonged skin contact. If skin is sensitive or becomes irritated, wear rubber gloves. Wear long sleeved work clothing or splash-resistant clothing as needed. Do not breathe mists. May cause respiratory irritation. Wear a NIOSH approved dust/mist respirator as needed. Wash thoroughly after handling. Generates ethyl alcohol and hydrogen during curing. Maintain adequate ventilation inside.

Storage and Handling: Store and transport upright with lid tightly in place. Store in a cool, dry place. Keep from freezing. Do not reuse or remove the label. Do not alter, dilute product or use for applications other than specified. **If spilled,** keep from drains and soil. Absorb with inert media. Dispose of contaminated absorbent, container and product in accordance with local, state and federal regulations. Refer to the MSDS and Product Data for additional use and cautionary information.

MATERIAL SAFETY DATA SHEET



I PRODUCT IDENTIFICATION

MANUFACTURER'S NAME AND ADDRESS: PROSOCO, Inc.
3741 Greenway Circle
Lawrence, KS 66046

EMERGENCY TELEPHONE NUMBERS:
8:00 AM – 5:00 PM CST Monday-Friday: 785/865-4200
NON-BUSINESS HOURS (INFOTRAC): 800/535-5053

PRODUCT TRADE NAME: Sure Klean® Weather Seal Siloxane PD

II HAZARDOUS INGREDIENTS

CHEMICAL NAME	(COMMON NAME)	CAS NO.	NFPA CODE	ACGIH TLV/TWA	OSHA PEL/TWA
Methylhydrogen siloxane	Proprietary*	Proprietary*	1,0,0-	None established	None established
Alkyl alkoxysilane	Proprietary*	Proprietary*		None established	None established
Ethyl Alcohol (hydrolysis by-product)	Ethanol	64-17-5	1,3,0,-	1000 ppm	1000 ppm

*Specific chemical identity withheld as trade secret pursuant to OSHA regulations.

Hydrolysis by-products are present in product as supplied in minute concentrations. These materials evolve slowly during curing.

III PHYSICAL DATA

	BOILING POINT (°F)	VAPOR PRESSURE (mm Hg)	VAPOR DENSITY (Air = 1)	EVAPORATION RATE (Butyl Acetate = 1)
Methylhydrogen siloxane	ND	ND	ND	ND
Alkyl alkoxysilane	ND	ND	ND	ND
Ethyl Alcohol (hydrolysis by-product)	173°F	97.68 (68°F)	1.60	3.30

	SPECIFIC GRAVITY	VOC (g/L)	SOLUBILITY IN WATER	APPEARANCE AND ODOR
Sure Klean® Weather Seal Siloxane PD	.996	339 g/L	100%	White liquid, odorless

IV FIRE AND EXPLOSION HAZARD DATA

EMERGENCY OVERVIEW

Sure Klean® Weather Seal Siloxane PD is a white, odorless, liquid. Contact with the eyes or skin may result in irritation. Mist inhalation may cause irritation. Always wear appropriate personal protective equipment when using this product. Product evolves minute quantities of hydrogen gas and ethyl alcohol during storage or curing that can accumulate in the container headspace or confined work areas. Adequately ventilate to maintain vapors well below flammability limits and exposure guidelines. Do not repackage.

FLASH POINT (METHOD): >212°F (ASTM D 3278)

FLAMMABLE LIMITS: Not determined

EXTINGUISHING MEDIA: On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide, dry chemical or water spray.

SPECIAL FIRE FIGHTING PROCEDURES: None.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Although there is no flash point, flammable vapors of ethyl alcohol and hydrogen gas may accumulate in the headspace of the container when storage times of six months are exceeded.

V HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Skin, eyes, ingestion, inhalation.

CARCINOGEN INFORMATION: Not listed (OSHA, IARC, NTP).

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: No applicable information found.

EFFECTS OF OVEREXPOSURE: Irritation of the eyes. Long term, occupational overexposure by inhalation may cause injury to the liver.

EYE CONTACT: Irritation of the eyes. May produce an oil film causing brief, reversible dimness of sight.

SKIN CONTACT: May cause slight irritation in people particularly sensitive to oils.

INHALATION: No toxic effects are expected under normal use conditions. Inhalation of aerosols may cause respiratory irritation.

INGESTION: Not expected in industrial/commercial use. On hydrolysis, this product has the potential to evolve potentially harmful ethyl alcohol.

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: If in eyes, flush with large amounts of water for 15 minutes, holding eyelids apart to ensure flushing of the entire eye surface. Get medical attention. If persistent irritation occurs, get medical attention.

SKIN CONTACT: Wash exposed area with soap and water. Remove contaminated clothing. If persistent irritation occurs, get medical attention. Launder contaminated clothing before reuse.

INHALATION: No respiratory effects have been reported.

INGESTION: Call a physician, emergency room or poison control center for instruction on how to safely induce vomiting. If vomiting occurs, keep head below hips to prevent liquid from entering lungs. Never give anything by mouth to an unconscious person. Get medical attention.

VI REACTIVITY DATA

STABILITY: Relatively non-reactive, but will hydrolyze slowly at ambient temperatures to form hydrogen and ethanol.

CONDITIONS TO AVOID: Heat, frost.

INCOMPATIBILITY (MATERIALS TO AVOID): Oxidizing material can cause a reaction. Water, alcohols, acidic or basic materials, and many metals or metallic compounds, when in contact with this product, can liberate flammable hydrogen gas. Do not repack, dilute, or alter this product.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: After long periods of time, small amounts of hydrogen gas and ethanol may be formed in the container headspace. Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Nitrogen oxides. Hydrogen. Formaldehyde.

VII SPILL OR LEAK PROCEDURES

SPILL, LEAK, WASTE DISPOSAL PROCEDURES: Wear appropriate protective safety equipment. Control spill with absorbent pads or brooms. If necessary, apply granular or loose sorbent to spill. When absorbed, sweep or otherwise collect and dispose of properly. Floors may be slippery; care should be exercised to avoid falls.

WASTE DISPOSAL METHODS: Dispose of in a manner approved for this material. As of this writing, the resin used in the manufacture of this product is classified as a hazardous waste (D 003, reactive). RCRA Hazard class characteristics have not been evaluated for this product. Federal regulation prohibits disposal of liquid materials of any kind in a sanitary landfill. Solidify cleanup residuals before disposal. As local and state regulations may vary, consult with appropriate state and local regulatory agencies or the sanitary landfill operator to ascertain proper disposal procedures.

Empty containers must not be reused. Drain all liquid possible from the container before disposal in a sanitary landfill.

VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Wear a NIOSH approved dust/mist respirator as necessary to avoid unnecessary inhalation of wind drift during application. Ventilate interior spaces during curing as minute quantities of ethanol and hydrogen may be evolved.

VENTILATION: Mechanical local exhaust at point of use.

PROTECTIVE CLOTHING: Wear protective clothing such as long sleeved work shirt and pants, work boots, and rubber gloves as needed to avoid skin contact. Do not allow clothing to become saturated with product. If work practices cannot be adjusted to avoid excess clothing saturation, splash resistant or Tyvek clothing and boots may be required.

PROTECTIVE GLOVES: Chemically resistant gloves such as nitrile, rubber, or PVC may be used.

EYE PROTECTION: Safety glasses with side shields are recommended. Splash resistant goggles or a face shield should be used prevent eye contact where wind-drift and excess atomization can pose a risk

OTHER PROTECTIVE EQUIPMENT: Access to an eyewash is recommended. Personal protective clothing and use of equipment must be in accordance with 29 CFR 1910.133 and 29 CFR 19120. 132.

IX SPECIAL PRECAUTIONS

WORK PRACTICES: Proper work practices and planning should be utilized to avoid contact with workers, passersby, and non-masonry surfaces. Do not atomize during application. Beware of wind drift. See the Product Data sheet and label for specific precautions to be taken during use. Wash hands before breaks and at the end of a shift.

This product will continue to evolve vapor during drying and ethyl alcohol during curing. Continue ventilation as needed during curing. Curing is complete in 3-5 days.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Wear appropriate safety equipment and clothing. Do not get in eyes, on skin, or on clothing. Do not take internally. Avoid breathing mist. Never touch face with hands or gloves that may be contaminated with this product.

Store in a cool, dry, well-ventilated place. Keep containers tightly closed when not dispensing product. Use care around spilled material because it will be slippery.

OTHER PRECAUTIONS: None known.

X REGULATORY INFORMATION

SHIPPING: This product is not regulated for domestic or international shipment. Vented containers are not allowed in air transportation.

NATIONAL MOTOR FREIGHT CLASSIFICATION: #33880 sub 2

SARA 313 REPORTABLE:

CHEMICAL NAME	CAS	UPPERBOUND CONCENTRATION % BY WEIGHT
NA	NA	NA

CALIFORNIA PROPOSITION 65: Warning: This product contains the following chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Acetaldehyde	75-07-0	<.01%
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XI OTHER

MSDS Status: **Date of Revision:** July 18, 2003

For Product Manufactured After: November 5, 2003

Changes: Product reformulation resulted in changes in every section to this document.

Item #: 40027

Approved By: Regulatory Department

DISCLAIMER:

The information contained on the Material Safety Data Sheet has been compiled from data considered accurate. This data is believed to be reliable, but it must be pointed out that values for certain properties are known to vary from source to source. **PROSOCO, Inc. expressly disclaims any warranty express or implied as well as any liability for any injury or loss arising from the use of this information or the materials described.** This data is not to be construed as absolutely complete since additional data may be desirable when particular conditions or circumstances exist. It is the responsibility of the user to determine the best precautions necessary for the safe handling and use of this product for his unique application. This data relates only to the specific material designated and is not to be used in combination with any other material. Many federal and state regulations pertain directly or indirectly to the product's end use and disposal of containers and unused material. It is the purchaser's responsibility to familiarize himself with all applicable regulations.

DATE OF PREPARATION: November 5, 2003

Sure Klean® Weather Seal Siloxane PD Water Repellent Specification

Specifier Note: The information provided below is intended to guide the Architect in developing specifications for products manufactured by PROSOCO, Inc. and should not be viewed as a complete source of information about the product(s). The Architect should always refer to the Product Data Sheet and MSDS for additional recommendations and for safety information. See also PROSOCO Section 07190 Water Repellents.

Specifier Note: Paragraph below is for PART 1 GENERAL, Quality Assurance.

Test Area

Test a minimum 4 ft. by 4 ft. area on each type of masonry. Use the manufacturer's application instructions. Let test area protective treatment cure before inspection. Keep test panels available for comparison throughout the protective treatment project.

Specifier Note: Paragraphs below are for PART 2 PRODUCTS, Manufacturers and Products.

Manufacturer: PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046. Phone: (800) 255-4255; Fax: (785) 830-9797. E-mail: CustomerCare@prosoco.com

Product Description

Sure Klean® Weather Seal Siloxane PD (predilute) is a ready to-use, water-based silane/siloxane water repellent for concrete, GFRC, and most masonry and stucco surfaces. Siloxane PD is a low-VOC treatment that penetrates more deeply than conventional water repellents and helps masonry resist cracking, spalling, staining and other damage related to water intrusion. Low odor and alkaline stable, Siloxane PD is ideal for field and in-plant application.

Technical Data

SOLIDS: 7.0%

FORM: White milky liquid

SPECIFIC GRAVITY: 0.998

FLASH POINT: > 200 degrees F (>93 degrees C) (ASTM D 3278)

VOC: 203 grams/liter (ASTM D 3960)

FREEZE POINT: 32 degrees F (0 degrees C)

Limitations

- Won't keep water out of cracks, defects or open joints.
- Water repellency of treated surfaces will increase for up to 14 days after application.

Specifier Note: Paragraphs below are for PART 3 EXECUTION, Installation.

Application

Before applying, read "Protect" and "Precautionary Measures" sections in the Manufacturer's Product Data Sheet for Weather Seal Siloxane PD. Refer to the Product Data Sheet for additional information about application of Weather Seal Siloxane PD. Do not dilute or alter.

Vertical Application Instructions

1. For best results, apply protective treatment "wet-on-wet" to a visibly dry and absorbent surface.
2. Alternate Application Methods

Spray: Saturate from the bottom up, creating a 4" to 8" (15 to 20 cm) rundown below the spray contact point. Let the first application penetrate for 5-10 minutes. Resaturate. Less will be needed for the second application.

Brush or roller: Saturate uniformly. Let protective treatment penetrate for 5 to 10 minutes. Brush out heavy runs and drips that don't penetrate.

Dense Surface Application Instructions

Apply in a single, saturating application with no run down. Back roll all runs and drips to ensure uniform appearance. DO NOT OVER APPLY. One application is normally enough. Always test.

Horizontal Application Instructions

1. Saturate in a single application. Use enough to keep the surface wet for 2 to 3 minutes before penetration.
2. Broom out puddles until they soak in. Treated surfaces dry to touch in 1 hour. Protect surfaces from rainfall for 6 hours following treatment. Many surfaces need several days to develop full water repellency.